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Good public relations have been growing since Bell's gadget caught the eye of the emperor of Brazil.

Here are some hints handed out to repairmen of the old Chicago Telephone Co. some 49 years ago.

(1) Put up a "good front."

(2) Go about your business cheerfully and quietly. When you enter a residence, don't overlook the footmat.

(3) If compelled to do anything that makes a litter, ask for a newspaper to catch the trash. The lady of the house will be grateful.

(4) Close the door when you go out, not forgetting to shut the front gate.

(5) Be courteous and polite, and don't be afraid to hand out a little jolly occasionally. It doesn't hurt anybody's feelings to be jollied a little.

(6) Treat everybody as you like to be treated, not forgetting your horse; if you want to know the horse's side of it, just take off your coat and hat some zero day, hitch yourself to the same post with your belt, and stand there about two hours. Hereafter, don't forget his blanket.

(7) Remember that you do more to raise or lower the company's profits per subscriber than anyone else, depending on how many times you go back to do the thing you should have done the first time.

•

THE PAUSE THAT INFURIATES. A gentleman writing in the London *Financial Times* had a few bones to pick with PBX operators he had encountered.

He suggested that business training include a course on "How to answer the telephone," and gave a few examples of how not to answer:

"(1) 'Is Mr. Smith in?'

" 'Who is that?'

" 'Mr. Hadrill.'

" 'I'll inquire . . . (long pause) . . . I'm sorry, he's out.'

"This is infuriating; the implication is, he doesn't want to speak to *you*.

"(2) 'Is Mr. Smith in?'

" 'He is, but is engaged on the other line: shall I ring you back?'

" 'Please.'

" 'O.K.' and rings off without asking your name or number.

"(3) 'Is Mr. Smith in?'

" 'I think so: do you want to speak to him?'

"Here is my answer: 'No, I want to sing him a piece out of an opera.' "

CHANGE OF ADDRESS

Please notify your local postmaster and the Circulation Department of TELEPHONY of change of address. Change cannot be made without the old as well as the new address. Allow three weeks for change of address to become effective.

Telephony

THE JOURNAL OF THE TELEPHONE INDUSTRY
Since 1901

April 30, 1960

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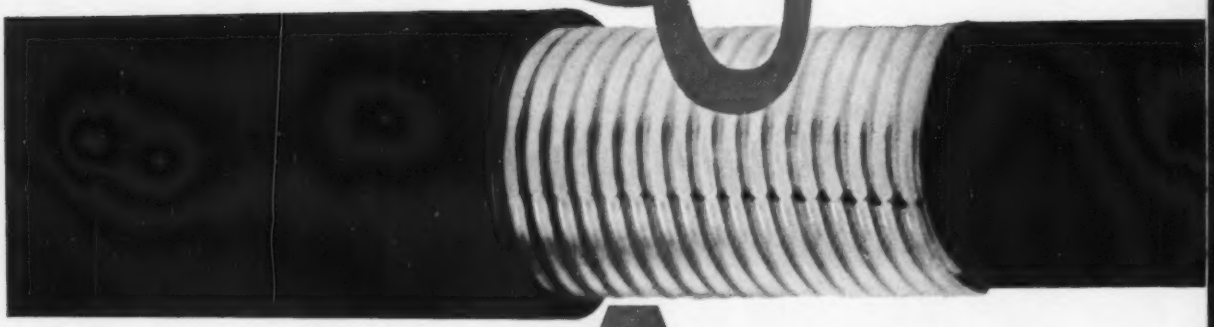

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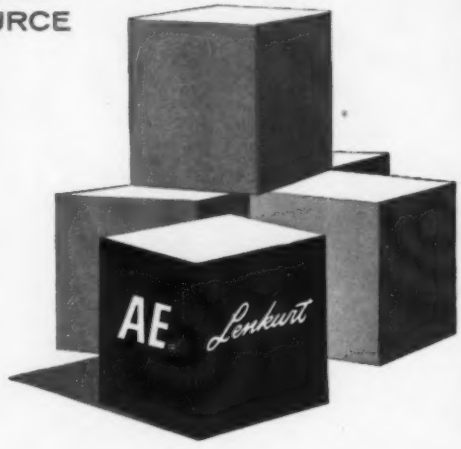

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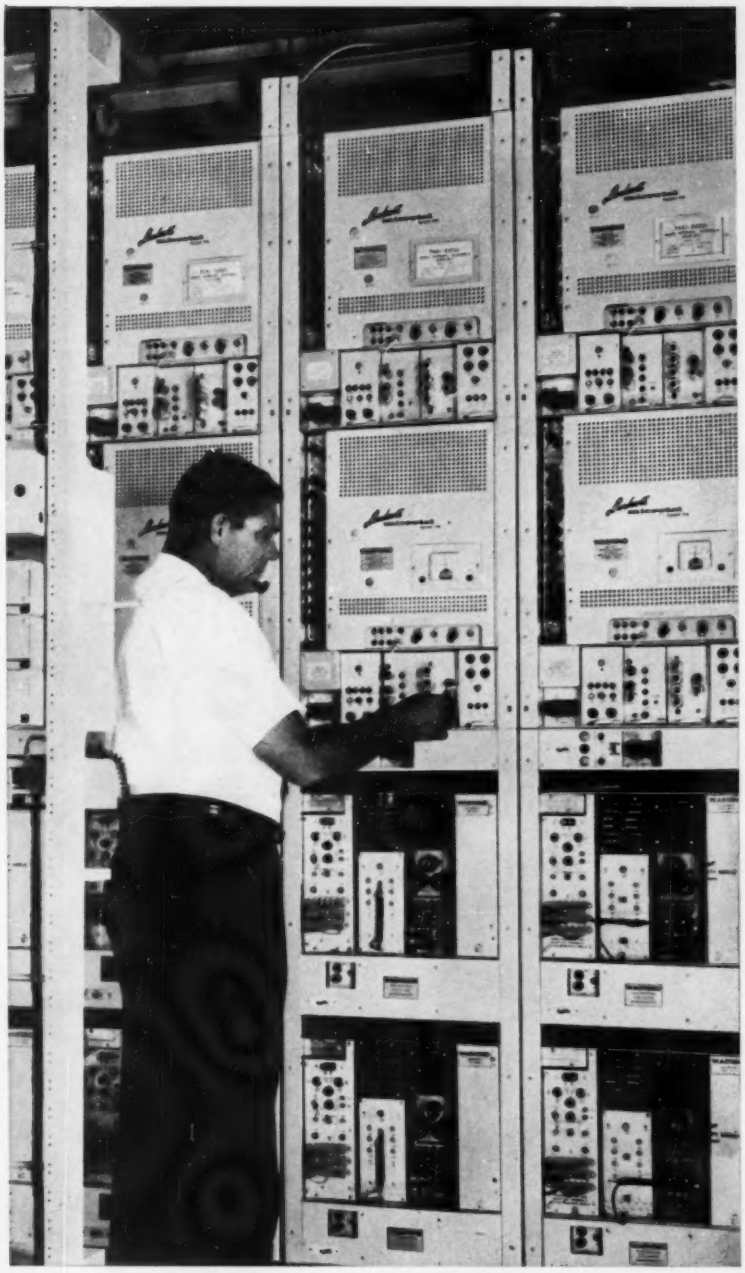

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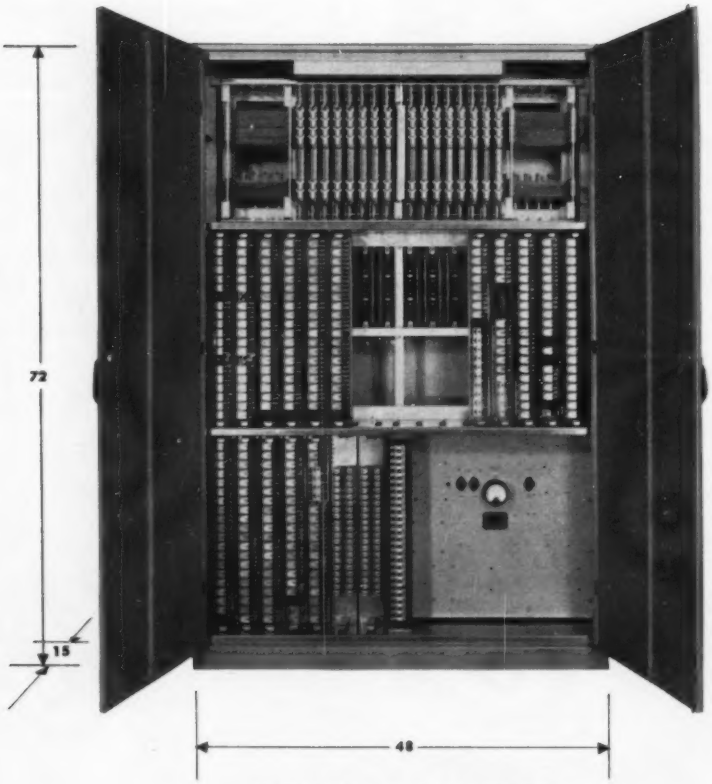
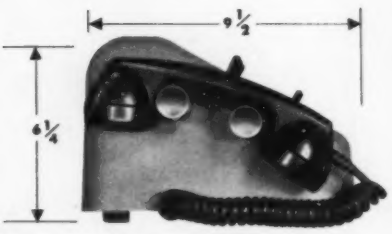
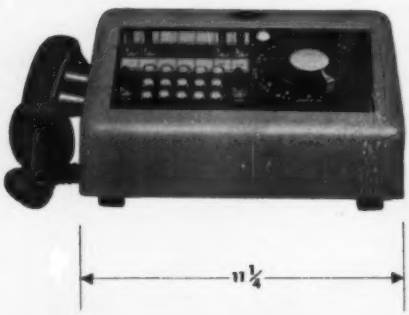


Switchboard bay for Leich's 40A PABX

The LEICH
40A PABX





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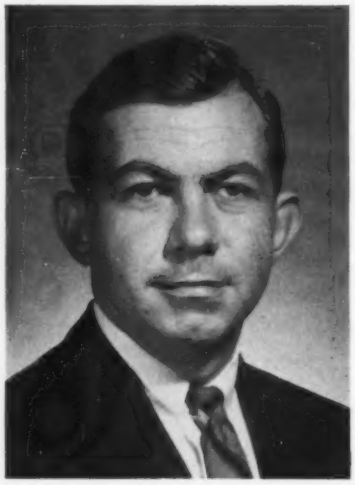

Take a man like

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Fred is a man who likes to get out and do things. During his college days at the University of Kentucky, he was a member of no less than seven campus organizations—including the Student Government Association. Now married, with three children, he keeps active in community affairs as member of the American Legion, VFW and BPOE.

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IN THE NATION'S CAPITAL

BY FRANCIS X. WELCH, WASHINGTON EDITOR
AND EDITOR, PUBLIC UTILITIES FORTNIGHTLY

Are Congressmen included in definition of a "person"? Nationwide airlift on first-class mail sought by Post Office. Question raised in Indiana about uniform intrastate toll rates. Rise in strategic material usage.

IS A congressman a "person"? This question means no disrespect for any of our august lawmakers. In fact, it is raised in connection with a legislative problem in which, paradoxically, a good many congressmen would just as soon *not* be considered persons. This legislative problem is now before the House Sub-committee on Legislative Oversight, headed by Representative Harris (D., Ark.).

There are a number of bills which are designed to eliminate the back-of-the-scene contacts between commissioners, lawyers, and others which have resulted in minor scandals for both the Federal Communications Commission and the Federal Power Commission. Most of these bills feature a provision which would outlaw—subject to various penalties for violations—any attempt made by any "person" to influence a regulatory commissioner on any case before the commission (or scheduled to come before the commission) under any other circumstances, except through regular procedures as to notice, hearings, etc.

But a key question arises as to the definition of a "person." Parties to the case are obviously included as well as their witnesses, agents, etc. Is a lawyer a "person"? Some critics of the bar might make some facetious comment at this point. But on the whole, it is generally understood that a statutory definition of a "person," improperly approaching a regulatory commissioner, would have to include all practicing attorneys.

When the question arises, however, as to whether a congressman is a "person," we get an entirely different kettle of fish. Congressmen have long insisted —and a good many of them continue to insist—that they have a right to represent the interest of their "constituents." This may take the form of a telephone call, or a letter, or even a personal call. But whatever it is, a regulatory commissioner usually responds courteously and some have been known to go further than that. At any rate, nobody on the federal payroll in his right mind would go out of his way to give offense to a congressman.

But one of the witnesses before the Harris sub-committee thought it would be a great mistake if congressmen were omitted from the proposed statutory definition of a "person." The witness was F. Trowbridge vom Baur, general counsel for the Navy Department. He spoke, however, as an individual lawyer. "I think the Congress itself should squarely face the fact that intercession by a member of Congress anywhere has a tremendous impact."

Mr. vom Baur recommended a comprehensive ban on all off-record contacts in contested cases to avoid "favoritism and intrigue." Chairman Harris agreed that congressmen should use discretion in seeking information about cases, but he said there are times when it is a "public service" for a congressman to inquire why no action has been taken in a long-pending case.

Those who know their Washington from long experience are willing to give odds that any final law written by congressmen will contain some sort of a provision preserving the traditional rights of our lawmakers to intercede for their "constituents." It is possible, however, for regulatory commissioners to protect their own interests, even under such circumstances, by making a record or keeping a memorandum of who said what, including the time and place.

Incidentally, "making a record" now has a new connotation in the vocabulary of practicing politicians. Until recently, when a politician found that what he said in print did not look as well as when he said it, he could always plead that he was "misquoted." But the modern art of electronics has caught up with that old alibi. In fact, it even tripped such an old "pro" as former President Truman.

Truman had been somewhat critical of the "sit-down" tactics used by some organized Negroes and others protesting against racial segregation at public eating places in the Southland. At a recent talk before a student group, he was quoted as suggesting that these tactics were inspired by Communists. This, he later denied, falling back on that age-old heretofore reliable alibi of politicians who occasionally get their feet in their mouths. He said he was "misquoted."

Unfortunately for Harry, somebody at the meeting had run a tape recorder on him. On the playback to the press association reporters, it was very clear that our sharp-spoken ex-President had said exactly what he was quoted as saying. Maybe the politicians' alibi in the future will have to be "I was recorded inaccurately," or even "I was misphotographed"—in case of a TV blooper. The rapid strides of all forms of electronic communications are leaving very little margin for human error these days.

Faster Mail in the Offing?

On May 5, it was recently announced by the national space agency, a 10-story balloon-type satellite is scheduled

for release from Cape Canaveral for the express purpose of communication relays. If successful, this will be one of the first steps in establishing a series of orbiting relays whereby radio signals, television signals, and radio-telephone messages can be bounced almost instantaneously to and from almost any part of the globe. A live television broadcast, which can now be received only a few miles away from the point of origin without coaxial cable or other specialized relays, could be picked up by receivers on any part of the earth—when this satellite system gets established, developed, and perfected.

As everyone in the telephone business knows, the impact of these new satellite relays on the future of long distance telephony should be tremendous. It remains to be seen just how the details of traffic usage, international agreements, frequency allocations, and rate structure economics will be worked out. But it is not too early to be planning and thinking about them and their relation to the day-to-day telephone business now being conducted via conventional exchanges and land wire.

And while the telephone industry is required to keep its head up, so as to be informed about these things going on in outer space, it must also keep an eye on the other or slower end of the communications business—letter mail. No one in this space age thinks much about old-fashioned, first-class letter mail being any more than a tortoise in the fast-moving communications race. But the Post Office Department is doing something about stepping up the speed of first-class mail. The idea is to make it move as fast as air mail, with or without an air-mail stamp.

For some time now, the Post Office has been testing the handling of first-class letter mail between selected spots, such as Washington-Chicago, by using "when available" space on the numerous scheduled airplanes flying back and forth between these two cities. The Post Office believes that in terms of actual cost the first-class mail could be transported just as cheaply by air as by train—and, of course, much faster. As a result, businessmen in Washington have been surprised recently by the fact that first-class mail to and from Chicago occasionally seems to move more swiftly than mail between Washington and New York City and other nearer points.

Last October, the Post Office asked the Civil Aeronautics Board (CAB), which has the duty of fixing air-line rate charges, for permission to expand its first-class mail airlift program on a nationwide basis. The CAB is expected to rule shortly on the Post Office's bid for authority to ship first-class mail anywhere in the country by airplane. Postal officials claim that such a nationwide airlift on first-class mail would improve mail service generally.

What, then, would be the advantage of putting air-mail stamps on letters? There still would be some advantage, but it would be one of priority and for faster handling at terminals. When mail is handled on a "when available" basis, that means that the airline will carry it if it has extra or unused space on a particular trip. Since most of the scheduled planes do have surplus space available on most of their flights, the first-class mail would provide a convenient form of reserve traffic for the air carriers.

If, by chance, a particular trip was loaded with priority traffic, the first-class mail would simply be "bumped" off that particular plane and would have to wait for the next one. Regular air mail, of course, would continue to enjoy the priority which is paid for when the air-mail stamp is put on the letter.

But there is a certain amount of argument and opposition to the Post Office's application before the CAB. Strangely enough, both the airlines and the railroads oppose the idea. The airlines say the rates they must charge are too low; the rails complain it will reduce their volume of business. The rates for this special air service—set by the CAB—are lower than the rates the Post Office pays for regular airmail transportation. But under it the airlines can refuse to carry the first-class mail provided they have no empty space, whereas regular airmail has top priority at all times.

The airlift program for first-class mail already has been used successfully by the Post Office on a limited scale. That is why it feels an expansion of the method would be worthwhile. Last month, the CAB gave the Post Office permission to expand the airlift to include 18 additional routes on a tentative basis until it had time to rule on the request for nationwide authority.

Uniform Intrastate Toll Rates

An interesting court appeal is now being taken from a recent decision of the appellate court of Indiana in a case involving the General Telephone Co. of Indiana and all the other Independent companies of that state in their toll rate relationship with Indiana Bell Telephone Co.

The question that will go up on appeal is whether the Indiana Public Service Commission, after it has fixed intrastate toll rates for the Indiana Bell Telephone Co. in formal rate proceedings, can thereafter fix the same uniform level of intrastate toll rates for all the Independents. If it can do so, the Independent companies would be relieved of the necessity of filing and presenting individual rate petitions. The commission would be relieved of the burden of hearing them and issuing formal orders. And a lot of expense and delay would be avoided all around.

But, the appellate court in this case failed to affirm the Indiana commission's order because of an argument raised by the Indiana public counselor. He said that what the commission was trying to do in this case was to issue an *ex parte* order. He contended that all *ex parte* orders, under the Indiana regulatory law, are void because they lack notice, hearings, findings, etc. In other words, the public counselor wants each individual Independent telephone company to file its own petition, and get its own permission, to charge the same intrastate toll rates which have been authorized for the Bell company.

The Independents and the Indiana commission, on the other hand, take the position that there is authority to impose a uniform intrastate toll rate level under such circumstances, without the necessity for justification by individual Independent companies. It was further contended that such a uniform level of rates is in the public interest.

This question came up when the commission on Apr. 3, 1958, after proper notice and hearings, had approved increased toll rates for Indiana Bell to yield additional gross revenues of $2,362,000. There was no argument about this. No rehearing was asked and nobody appealed.

But, on the same day, in a separate order, the commission gave blanket authority to all other telephone companies in Indiana to file the same rates, charges, rules, and regulations that it had approved for Indiana Bell. The public counselor appealed; and the appellate court split 4 to 4. Under Indiana law, when such an even division of the appellate court occurs, the case is transferred to the Indiana Supreme Court which will next be heard from. The appellate court affirmed the commission's order so far as it applied to Indiana Bell.

Use of Strategic Materials Rises

Telephone and other communication equipment manufacturers are among the largest domestic consumers of strategic materials, such as copper, aluminum, carbon, and stainless steel, and their alloys. During the Korean War these were called "controlled materials." The Communications Industries Division, Business & Defense Services

(Continued on page 55)

Where Do We Go From Here?

By Martin J. Luichinger

LOOKING BACK over the 84 years since the inception of the first telephone system, over which was transmitted that now historic emergency message, "Mr. Watson, come here, I want you," many amazing and near-miraculous accomplishments have been achieved in the telephone business.

This first telephone system consisted of two very crude instruments connected by a wire line extending between two rooms on the top floor of Mr. Bell's boarding house at 5 Exeter Place, Boston, Mass., and has now been expanded to a system of over 70 million stations throughout this country and over 130 million telephones in the world, 98 per cent of which are capable of interconnection.

The vast network, which has annihilated distance and which facilitates interconnection of over 127 million of the world's telephones, is the result of a constantly expanding "know-how" which began with that simple wire line in the Boston attic, progressing through a series of developments, e.g., telephone cable, circuit loading, telephone repeaters, carrier, radio microwave and tropospheric scatter systems.

Running concurrently with the development of these transmission media, was the equally amazing development of central office switching operations, beginning with the first very slow and crude manual functions, to the present automatic machine and electronic switching systems facilitating direct dialing by the customer, irrespective of distance.

The Author

Martin J. Luichinger, who is currently a consulting engineer in private practice, retired from Indiana Bell Telephone Co. in April 1959 after almost 46 years of service.

Beginning in 1913 as a cable splicer's helper, he held various positions in construction, maintenance and operation functions in the plant department, including district plant engineer and district plant manager.

From plant, he moved to the general engineering department, where he spent 12 years on electrolysis and transmission engineering. He also did inductive coordination work as foreign wire relations engineer and outside plant engineer.

For the last four years of his Indiana Bell career, he was general defense coordinator in the executive department.

Mr. Luichinger was with the U. S. Signal Corps in two world wars.

During World War I, he served with the 314th Field Signal Batallion as well as in the signal schools.

World War II saw him as communication engineer on the staff of the Chief Signal Officer in charge of installation, maintenance and operation of a worldwide secret radio system. He attained the rank of lieutenant colonel and received the legion of merit and bronze star as well as four battle stars for service in the Asiatic-Pacific theatre of operations.

Mr. Luichinger was the Chief Signal Officer's representative on Admiral Blandy's staff for "operations crossroads," the atomic bomb test at Bikini, where he handled all communications associated with the project for the Army.

The practicality of the latter became an unqualified reality recently when an interconnection was dialed over a 6,000 mile circuit, from San Juan, Puerto Rico, in the Atlantic Ocean to Honolulu, Hawaii, in the Pacific Ocean, in a matter of seconds. (See accompanying diagram.)

To date, this is the longest operator-dialed telephone connection ever accomplished. This dialed connection traversed some 1,200 miles of the recently completed deep-sea cable from San Juan, Puerto Rico, to West Palm Beach, Fla., and from there traveled over 2,400 miles of the United States mainland over the existing carrier and microwave network to Pt. Arena, Cal., and continued over the final 2,400 miles of another relatively new deep-sea cable to Honolulu, Hawaii.

Taking a good look at the telephone industry as of today, and its many outstanding accomplishments, brings us to the title of this article, "Where Do We Go From Here?".

The new decade ahead may very likely be far more fabulous for the art of communications, than anything which has gone before, and in this writer's humble opinion, we haven't seen anything yet.

With the present amazing space explorations, motivated somewhat by our defense activities, it is very likely that the communications efforts associated with these activities could result in opening up an entirely new means of dependable communications, providing for the transmission of all forms of intelligence and/or entertainment, to and from any global point.

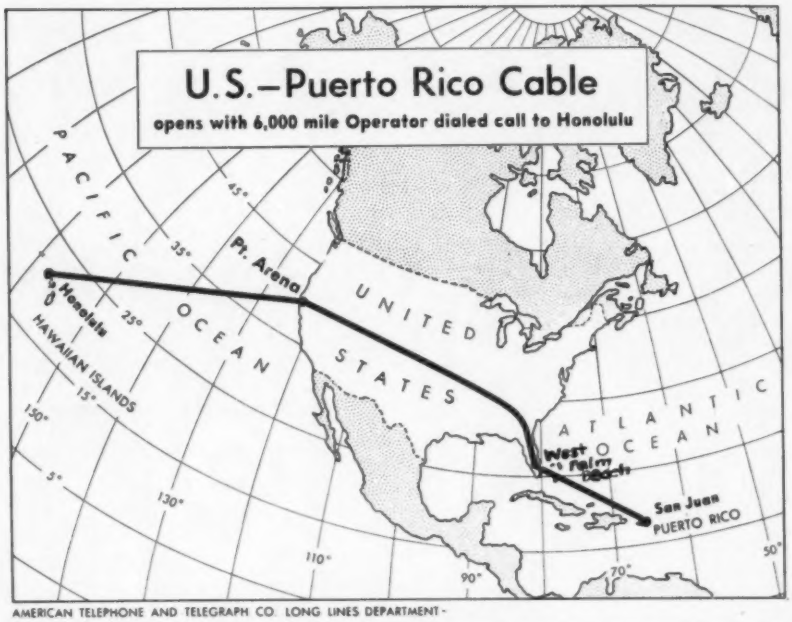
Such a system would probably involve a chain of space reflectors and/or repeaters and relay satellites strategically placed in space to provide diversity coverage for dependable, continuous service. This placement would not necessarily be confined to closing the gap between distant points located on our planet.

Explorations of this nature will, of course, run concurrently with the over-all satellite program. They will call for considerable scientific research and development, based on a composite of our present know-how and the most vivid imagination inspired by an important national goal.

This will take time and the expenditure of large sums of money, after which new problems must be faced in overcoming the undetermined economic possibilities of their application.

In other words, we can do it, but can it be justified financially?

As you know, the prime responsibility of our business is service—a constantly



AMERICAN TELEPHONE AND TELEGRAPH CO. LONG LINES DEPARTMENT

The scope of the development of the communications art was illustrated recently by the dialing over a 6,000 mile circuit of a call from San Juan, Puerto Rico, to Honolulu, Hawaii. The U.S.-Puerto Rico submarine cable was constructed by the Long Lines Department of the American Telephone & Telegraph Co. and the Radio Corp. of Puerto Rico, a subsidiary of International Telephone & Telegraph Corp. Costing 17 million dollars, it is the deepest submarine telephone cable in the world.

improved and greatly expanded service in all of its potential and anticipated aspects—and this responsibility must be met.

What the future holds for this wonderful business of ours has only the slightest possibility of being exceeded by the most fantastic imagination of the people devoted to it.

With the fading of the so-called, "Fabulous Fifties," we encounter the "Golden Sixties," and the decades beyond, and the job responsibilities of telephone management are going to be correspondingly more difficult.

To experience continued success in the telephone business, the service must be continually improved. The quality of service must be commensurate with every requirement of our ever-expanding population, the prospects of higher living standards and the over-all economy, at the lowest possible cost consistent with financial safety.

Full compliance with this responsibility will require a constant flow of new money into the business, and this can only be realized by a fair and dependable return to the investors.

This task is more difficult than it appears on the surface, and is becoming more so as time progresses.

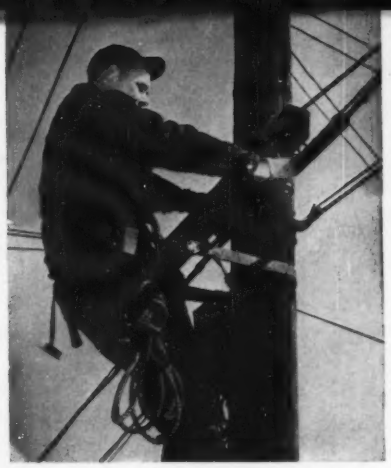
To obtain the new money required for long-term commitments for service expansions and improvements, we must compete with all other forms of business whose profits are generally far more attractive than the present average level of telephone company earnings.

This competition is tough, and to satisfactorily meet this challenge, management must constantly strive for adequate service rates. At the same time, it must effect new methods and changes that will result in the highest standards of service and operating efficiency, in the hopes of attaining an earnings level that will attract the necessary new capital.

To attract this needed new capital, we will be required to produce a rate of return that compares favorably with other industries, from which uninterrupted dividends can be passed on to the stockholders. It is not uncommon, in cases where management is doing an excellent earnings job, to find itself subjected to unfair criticism from unscrupulous sources, with the cry of excess earnings and that rates should be reduced.

It seems that in the telephone business this is the penalty for doing a good job. This is one of the biggest headaches of telephone company management, and is somewhat in line with the philosophy, "It's good for the dog to have a few fleas, it keeps him reminded he's a dog."

(Continued on page 56)



THE Plant Man's Notebook

BY RAY BLAIN, TECHNICAL EDITORIAL DIRECTOR

FOUR Michigan Bell Telephone Co. engineers are making good use of their spare time by reading technical books onto recording tape to help blind students obtain an education. These engineers volunteered to help when Recording For the Blind, Inc., indicated a need for men with technical knowledge to read the book, "Electronic and Radio Engineering," for embossing on records.

Like everyone else volunteering for this work, these engineers took reading tests and the results were sent to the national headquarters of the organization in New York for evaluation.

After the engineers were accepted, they were furnished a recorder, tape, and a timer. Each man reads the equivalent of one side of a record—27 minutes. He also maintains a log of what he has done so that the next man can take up where he leaves off.

After the recording is finished, it is played back and checked for errors. These must be erased and re-recorded. Any one of the engineers can make the corrections.

As each tape is finished, it is sent to New York where it is embossed on 16-2/3 rpm discs. These are then sent to the student who requested the book for his use. Any blind college or vocational student may request a textbook that he needs in record form. The records are furnished free by one of the organization's 14 reading units in the United States.

These four engineers have already spent a year in recording this 1,078-page book, and estimate that another year will be required to finish.

•

In a speech before the Armed Forces Communications & Electronics Association in Washington, D. C., recently, Ralph L. Clark, assistant director of defense research and engineering (communications) told the following:

Enlarged pictures the Russians took of the far side of the moon were shown to some of our research engineers with the comment that they were fine pictures. These engineers replied: "Oh, I don't know. They are not nearly as good as are required by our specifications for moon shots."

•

We are indebted to Mr. D. S. Guild, vice president, operations, of the Hawaiian Telephone Co., for a copy of their 1959 annual report.

Statehood in 1959 brought more interest to these islands, more tourists visiting, more construction projects, more investment by mainland companies in local businesses, and more jobs for local people. More business and more people meant more telephones and more calling.

In 1959, a record gain of 14,623 telephones was seen. At the end of the year, the Hawaiian company had 191,-373 telephones in service. It is quite obvious that this company and the 50th state will both continue to grow and prosper.

•

This year, the Western Electric Co. will produce a scheduled 49.2 billion conductor feet of PIC (polyethylene-insulated-conductor) cable. This is more than enough to make a single conductor wire wrapped 358 times around the earth.

•

Communication engineers will all be interested in a soft cover book of 88 pages, titled: "Antennas," that can be purchased from TELEPHONY for $1.50.

This book by Dr. Schure covers both theory and practical application; transmission lines, the basic antenna input impedance, polarization, etc., from the basic dipole, through parasitic arrays, long wire and other varieties of antennas. A special feature of this book is the thorough coverage of practical antenna types contained in the last chapter.

•

The telephone solicitor nuisance is on the increase in many sections of the country. Some of these solicitors are really clever in attracting attention by informing the called party that they have been selected to win a prize, that they are conducting a survey, etc.

To date, there does not appear to be any method available for combatting this nuisance.

•

On Apr. 1, 1960, the name of the White Alice Project was changed to AFALLS. Interpreted, this means Air Force Alaskan Long Lines System.

The White Alice name was assigned to the communications project when the original contract was awarded by the United States Air Force.

•

The advantage of moving out to the suburbs is that you are so close to the city!

•

We are warned that the concrete cloverleaf is becoming our national flower.

•

"Sound barrier" is defined as what you should have between the rumpus room and the rest of the house.

Loans Totaling $3,671,000 Approved by REA to Eight

EIGHT TELEPHONE loans approved during the week of Apr. 11 by the Rural Electrification Administration will help to finance new or improved telephone service for 8,546 subscribers in seven states. Of these subscribers, 3,516 will receive service for the first time.

The loan funds were approved as follows:

Quincy (Fla.) Telephone Co.; $1,570,000; Apr. 11.

These funds will aid the new borrower in improving service for 2,540 existing subscribers and furnishing initial service to 1,880 subscribers. The borrower plans to acquire the Interstate Telephone Co., Attapulgus, Ga., which serves 163 of the existing subscribers. Both companies provide dial service.

The borrower's Greensboro and Quincy, Fla. dial facilities will be expanded and retained in the system. A new exchange will be created and a dial office built in Gretna, Fla. In addition, a new dial office building will replace the present facilities at Attapulgus, Ga.

Provision is made in this loan to serve 31 dial mobile radio-telephone subscribers, and to refinance the borrower's existing indebtedness incurred as a result of modernizing the present system.

Mitchell N. Drew is both president and manager of the Quincy company.

•

Pine Belt Telephone Co., Inc., Arlington, Ala.; $134,000; Apr. 12.

This loan will help finance construction to serve 118 new subscribers and to complete previously approved construction.

The borrower is now serving 138 subscribers from existing dial facilities at Arlington. A total of $487,000 in REA loans already approved will enable the company to improve or extend service to a total of 755 subscribers. It plans to establish additional dial exchanges at Sweetwater and Dixon Hills.

•

Plymouth Telephone Co., Riceville, Ia.; $208,000; Apr. 12.

These funds will assist the new borrower to improve service for 335 subscribers and to furnish initial service to 119 subscribers.

Of the existing subscribers, 230 now receive manual service from the borrower and 105 from the Rock Falls Telephone Co. Under an agreement between the two organizations, the borrower will obtain access rights to the Rock Falls territory for a nominal sum. The Rock Falls company will dismantle its facilities as soon as dial service is available from the borrower. A new dial central office will be constructed at Plymouth to serve both areas.

Richard Nelson is president of the Plymouth company, and C. C. Pearce is general manager.

•

Badger State Telephone & Telegraph Co., Neillsville, Wis.; $218,000; Apr. 12.

This loan will help to finance improved telephone service for 244 subscribers of the Lynn Telephone Co., and to provide service to 190 new subscribers. The loan will enable the borrower to acquire the Lynn company which serves the area in and around the village of Chili.

The loan provides for the construction of a new dial central office at Chili. This exchange will serve 236 of the 434 existing and proposed subscribers; 179 will be served out of the borrower's Granton exchange, and 19 will be served out of the Neillsville exchange. The Granton and Neillsville exchanges were cut over to dial in October, 1959.

Upon completion of planned construction, the borrower will be serving an estimated 2,409 subscribers from three dial exchanges.

•

Salem (Ky.) Telephone Co.; $468,000; Apr. 14.

This new borrower, a commercial corporation, with a combination of common battery, magneto, and dial service, serves 532 subscribers. The system is served by one central office in the unincorporated town of Salem.

The loan funds will aid in enabling the borrower to convert its system entirely to dial operations and to provide initial service to 410 additional subscribers. The funds will finance the construction of a combination commercial and central office building in Salem. The building will include warehouse and garage facilities. The Salem company's system, when completed, will serve 942 subscribers.

William B. Butler is president and manager of the Salem company.

•

Southwest Telephone Exchange, Inc., Emerson, Ia.; $182,000; Apr. 15.

Funds will assist the borrower in improving telephone service for 429 existing subscribers, and in extending service to 24 new subscribers.

This new borrower, a commercial organization, operates a magneto exchange at Emerson and has recently converted its Imogene exchange to dial.

The loan will help the borrower to construct a new dial central office at Emerson and to enlarge the facilities at the Imogene exchange. Upon completion of construction scheduled under this loan, the borrower will be operating two dial exchanges serving 453 subscribers.

Dr. L. C. Blank is president and manager of the Southwest Telephone Exchange, Inc.

•

Franklin Telephone Co., Inc., Meadville, Miss.; $510,000; Apr. 15.

This new REA borrower, a commercial organization, was incorporated in 1959 for the purpose of acquiring and developing the Meadville Telephone Co. which provides common battery service to 324 subscribers. By making this acquisition, with loan funds, the borrower will be able to improve service for the existing subscribers and to extend service to 550 new subscribers.

In addition, the loan will help to finance the construction of a combined headquarters-dial central office in Meadville.

Mrs. Mildred G. Creekmore is president and James H. Creekmore is manager of the Franklin company.

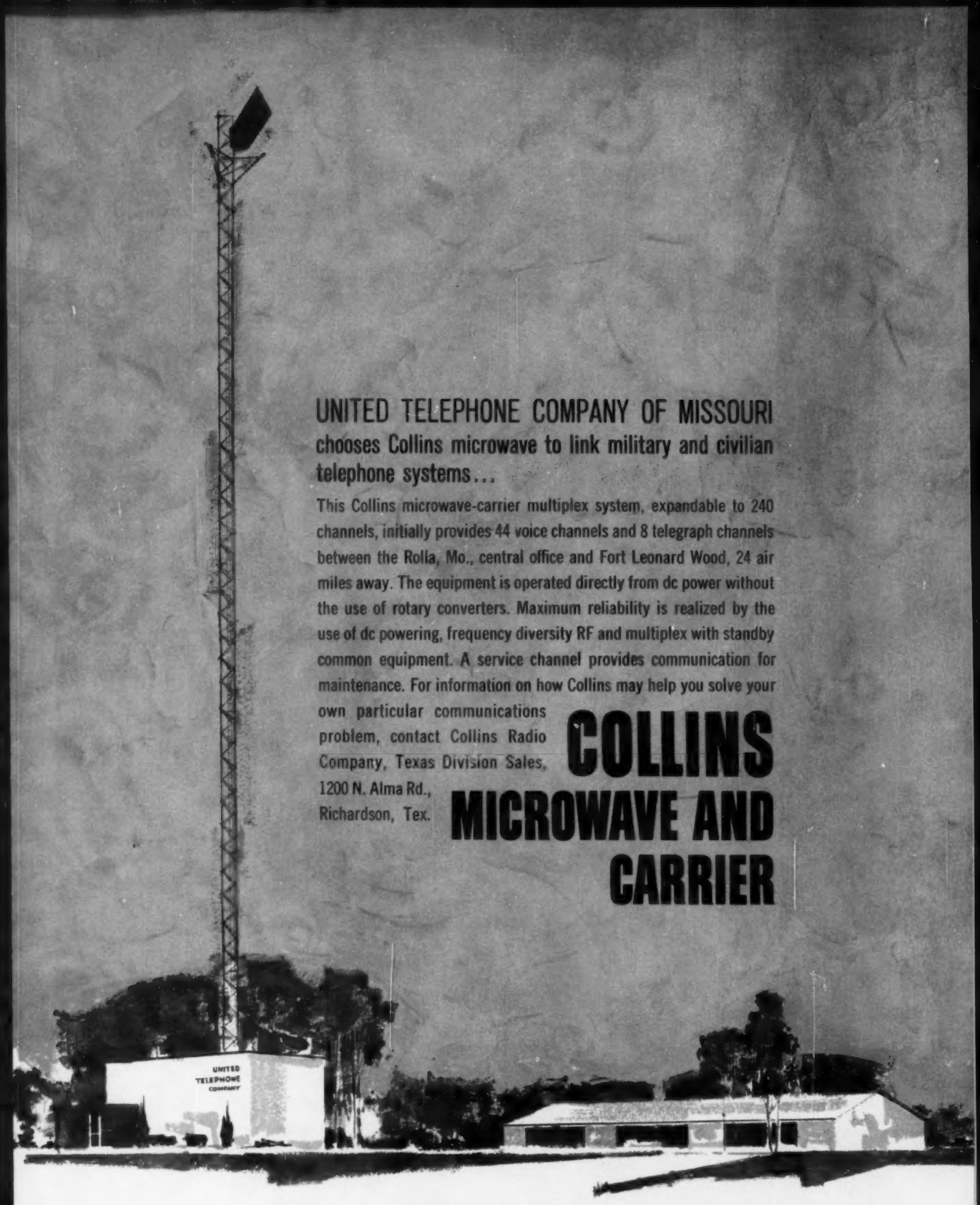
•

Yelm (Wash.) Telephone Co.; $381,000; Apr. 15.

Funds will be used to help improve telephone service for 626 existing subscribers and to extend service to 225 new subscribers.

This new REA borrower, a commercial organization, now operates a dial exchange at Yelm. The loan will enable it to build a new commercial office in Yelm and remodel structures being used for equipment and storage purposes. Upon completion of construction scheduled under this loan, the borrower will be providing dial service to 851 subscribers through its Yelm exchange.

Lester M. Curry is president and manager of the Yelm company.



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This Collins microwave-carrier multiplex system, expandable to 240 channels, initially provides 44 voice channels and 8 telegraph channels between the Rolla, Mo., central office and Fort Leonard Wood, 24 air miles away. The equipment is operated directly from dc power without the use of rotary converters. Maximum reliability is realized by the use of dc powering, frequency diversity RF and multiplex with standby common equipment. A service channel provides communication for maintenance. For information on how Collins may help you solve your own particular communications problem, contact Collins Radio Company, Texas Division Sales, 1200 N. Alma Rd., Richardson, Tex.

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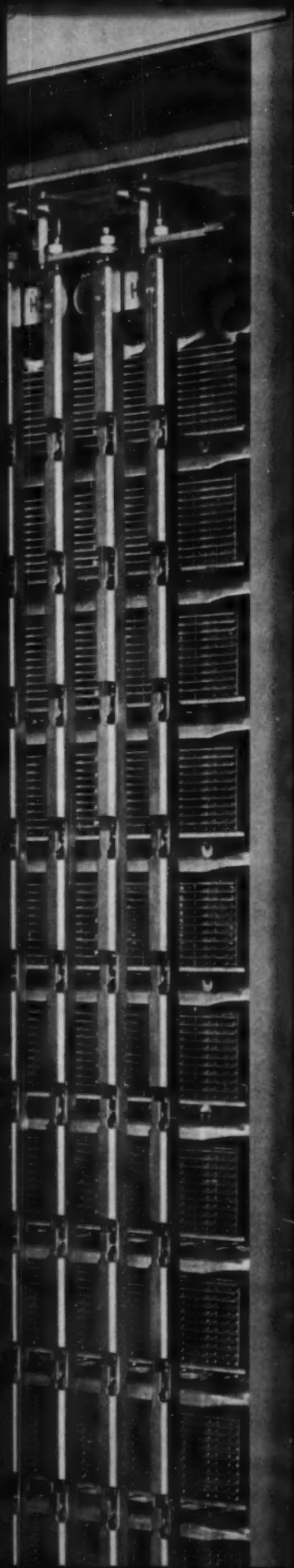

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with North NX-2 switchboards

Standardization of component modules, inherent in the application of a modular concept, has enabled North to bring to even the smallest exchanges the efficiencies and economies of crossbar switching, heretofore available only to large exchanges.

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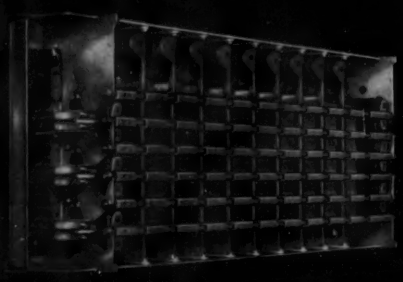
THE DYNAMIC FORCE IN THE TELEPHONE INDUSTRY

NORTH ELECTRIC COMPANY

Galion, Ohio



60-T-4

The Potential Market for

Telephone Answering Devices in the Service Industries

By ALEXANDER I. WARRINGTON*

THIS IS THE ninth installment of Mr. Warrington's article presenting statistics on the so-called service industries, by regions and states, which constitute a big potential market for telephone answering devices. The statistics given in this series should be of value to market analysts in telephone companies and those in charge of marketing telephone services.

The eighth installment was published in the Apr. 23 issue. REGION VIII. Mountain—Montana, Idaho, Wyoming, Colorado, New Mexico, Arizona, Utah and Nevada.

The first installment appeared in the Mar. 5 issue, covering REGION I. New England—Maine, New Hampshire, Vermont, Massachusetts, Rhode Island and Connecticut.

The second installment covering REGION II. Middle Atlantic—New York, New Jersey and Pennsylvania was published in the Mar. 12 issue.

The third installment was published in the Mar. 19 issue, covering REGION III. East North Central—Ohio, Indiana, Illinois, Michigan and Wisconsin.

The fourth installment appeared in the Mar. 26 issue, covering REGION IV. West North Central—Minnesota, Iowa,

*Mr. Warrington is an Industrial Economist of Baton Rouge, La., and has authored many articles for TELEPHONY during the past several years.

TABLE 1

Total Number of Service Units, Pacific Region, 1960

Geographic Region and State	Total Number of Service Units			Percentage Distribution
	Without Payrolls	With Payrolls	Total	
Pacific	222,400	186,800	409,200	100.0
Washington	33,600	24,000	57,600	14.0
Oregon	23,200	16,800	40,000	9.7
California	165,600	146,000	311,600	76.1

This is the most basic table of the entire series. It is based upon the "1954 U. S. Census of Selected Service Industries," which was adjusted for 1960.

"Service units without payrolls" (first column) are, for the most part, individuals who operate some kind of service establishment as a regular business and without paid help.

"With payrolls" signifies service units that maintain paid employes.

Missouri, North Dakota, South Dakota, Nebraska and Kansas.

The fifth installment appeared in the Apr. 2 issue, covering REGION V. South Atlantic — Delaware, Maryland, District of Columbia, Virginia, West Virginia, North Carolina, South Carolina, Georgia and Florida.

The sixth installment was published in the Apr. 9 issue, covering REGION VI. East South Central — Kentucky, Tennessee, Alabama and Mississippi.

The seventh installment appeared in the Apr. 16 issue. REGION VII. West South Central — Arkansas, Louisiana, Oklahoma and Texas.

REGION IX. Pacific — Washington, Oregon and California.

(See "Impact of Telephone Communications on Economies of the Various Geographic Regions of the U. S."—TELEPHONY, Sept. 5, 1959.)

Washington

There were 33,600 service units without payrolls and 24,000 with payrolls. The total of 57,600 accounted for 14.0 per cent of all service units in the region.

The metropolitan areas shown in *Table 2* accounted for 55.8 per cent of the service units in the state.

Various potential markets for answering instruments are as follows: Primary market, 30,200; secondary market, 5,800; tertiary market, 6,700. The total of 42,700 represents 4.0 per cent of total telephones.

Oregon

There were 23,200 service units without payrolls and 16,800 with payrolls. The total of 40,000 accounted for 9.7 per cent of the service units in the region.

The metropolitan areas shown in *Table 2* accounted for 46 per cent of the total service units in the state.

The various potential markets for answering devices are as follows: Primary market, 20,800; secondary market, 4,000, and tertiary market, 4,700.

The total of 29,500 represents 4.6 per cent of total telephones.

California

There were 165,600 service units without payrolls and 146,000 with pay-

TABLE 2

Total Number of Service Units, Pacific Metropolitan Areas, 1960

State and Metropolitan Area	Total Number of Service Units			Percent of State Total
	Without Payrolls	With Payrolls	Total	
Washington	33,600	24,000	57,600	100.0
Seattle	11,200	8,800	20,000	34.7
Takoma	3,800	2,800	6,600	11.4
Spokane	3,200	2,400	5,600	9.7
Oregon	23,200	16,800	40,000	100.0
Portland	10,400	8,000	18,400	46.0
California	165,600	146,000	311,600	100.0
Los Angeles-Long Beach	68,000	67,600	135,200	43.3
San Francisco-Oakland	37,600	28,800	66,400	21.3
San Diego	6,000	8,400	14,400	4.6
San Bernardino-Riverside-Ontario	6,400	6,000	12,400	3.9
San Jose	5,600	4,000	9,600	3.0
Sacramento	4,800	3,600	8,400	2.6
Fresno	4,000	3,200	7,200	2.3
Stockton	2,400	3,600	6,000	1.9

Information is of the same type as in *Table 1*, except data are for metropolitan areas.

TABLE 3

The Market Potential for Answering Instruments for the Pacific Region, by Degree of Intensity, 1960

Geographic Region IX. and State	Number of Service Units			Total Number of Service Units
	Primary Market	Secondary Market	Tertiary Market	
Pacific	222,400	56,000	130,800	409,200
Washington	33,600	7,200	16,800	57,600
Oregon	23,200	5,000	11,800	40,000
California	165,600	43,800	102,200	311,600

The *primary* market is the market which will require the least effort and the units shown therein are close to the total of the number of answering devices needed. The need is urgent because the operator or the service unit has no tangible human assistance.

The *secondary* market represents service establishments that have one and only one paid assistant. This is also a rich potential market for telephone answering devices. Approximately 80 per cent of service units with one paid employe need answering instruments.

The tertiary market represents the balance of service units and has a potentiality for telephone answering devices of from 30 to 50 per cent of the units shown.

rolls. The total of 311,600 accounted for 76.1 per cent of total service units in the region.

The metropolitan areas shown in *Table 2* absorbed 82.9 per cent of all the service units in the state.

Various potential markets for answering devices are as follows: Primary market, 149,000; secondary market, 35,000, and tertiary market, 40,900. The total of 224,900 represents 3.4 per cent of total telephones.

TABLE 4

The Market Potential for Answering Devices, for the Pacific Metropolitan Areas, 1960

State and Metropolitan Area	Number of Service Units			Total Number of Service Units
	Primary Market	Secondary Market	Tertiary Market	
Washington	33,600	7,200	16,800	57,600
Seattle	11,200	2,600	6,200	20,000
Takoma	3,800	800	2,000	6,600
Spokane	3,200	700	1,700	5,600
Oregon	23,200	5,000	11,800	40,000
Portland	10,400	2,400	5,600	18,400
California	165,600	43,800	102,200	311,600
Los Angeles-Long Beach	68,000	20,300	44,200	135,200
San Francisco-Oakland	37,600	8,600	20,200	66,400
San Diego	6,000	2,500	5,900	14,400
San Bernardino-Riverside-Ontario	6,400	1,800	4,200	12,400
San Jose	5,600	1,200	2,800	9,600
Sacramento	4,800	1,100	2,500	8,400
Fresno	4,000	1,000	2,200	7,200
Stockton	2,400	1,100	2,500	6,000

This table is identical with *Table 3*, except it is for metropolitan areas.

TABLE 5

Percentage of Total Telephones Absorbed by Service Units, in the Primary, Secondary, Tertiary Markets for Answering Devices

Geographic Region IX. and State	Total Number of Telephones	Percentage of Total Telephones Absorbed by Service Units			Total Number of Telephones
		Primary Market	Secondary Market	Tertiary Market	
Pacific	8,144,600	2.7	0.6	1.6	100.0
Washington	1,063,300	3.1	0.6	1.5	100.0
Oregon	629,700	3.6	0.7	1.8	100.0
California	6,451,600	2.5	0.6	1.5	100.0

This table should be useful to market analysts in making more detailed analyses and also in adjusting *Tables 1* through *4* annually. The adjustment of *Tables 1* through *4* can be made by using total telephones as a base. With the elasticity that is provided by *Table 5*, *Tables 1* through *4* should prove of service for at least five years.

USITA's L. F. Roberts Participates in PR Seminar

Leon F. Roberts, director of information of the United States Independent Telephone Association, Washington, D. C., participated as a public relations consultant in a two-day seminar conducted by the United States Navy at the Naval War College, Newport, R. I., on Apr. 21-22.

Other guest consultants included the public relations directors of the Radio Corp. of America; General Electric Co.; General Dynamics Corp.; Raytheon Corp.; of Batten, Barton, Durstine and Osborn, Inc.; The Borden Co.; and of Kaiser Industries.

The moderator of a panel of newspaper, motion picture, radio, and television counsellors who discussed "The American Communications System" was A. F. Monroe, vice president-public relations, of J. M. Mathes, Inc., New York. Members of the panel included John Ford, motion picture director; Peter Hackes, news analyst of the National Broadcasting Co., and Frank Bartholomew, president of United Press International.

A feature of the program was a lecture, "Let the Public Not Be Damned!" by Dean Edward Barrett of the Columbia University School of Journalism.

Service Ideal

"A good deed is never lost; he who sows courtesy reaps friendship, and he who plants kindness gathers love."—BASIL.

COURSE OF FUTURE ARTICLES

IN THIS monthly article and the following monthly articles, this section will contain a series relating to microwave, carrier, and other electronic techniques. Considerations involving these techniques will include a variety of subjects, many of which will relate to:

Testing equipments and testing methods associated with carrier and microwave installation and maintenance.

Means of correlating the information obtained from various testing procedures.

Limits imposed on various test data in order that the techniques used will provide a grade of service for which it was initially designed.

This first series of articles will be concerned with considerations of open wire carrier systems.

OPEN WIRE CARRIER TECHNIQUES

MANY of the transmission facilities being installed by telephone companies for furnishing exchange and interexchange service continue to be provided to a large extent through the use of carrier techniques, either by superimposing on open wire, cable, or radio. Depending upon the type of physical plant in place, that is, open wire or cable, or upon the combination of the physical plant, one or another of these techniques may be used to a greater extent. Open wire carrier systems are used quite extensively by both large and small companies.

The use of open wire carrier techniques to provide for initial transmission facilities or an extension of existing facilities can be either economical or uneconomical, can be either practical or impractical, depending upon how much planning has been given prior to purchase or installation of the system. There are many conditions that must be considered when contemplating the installation of a carrier system on open wire, cable, or microwave.

In the case of an open wire carrier system, consideration is given to:

Attenuation (line loss).

Crosstalk (a result either of systems on the same pole line, systems operating within the same cable entrance sheath, or systems operating by some other mutual coupling path).

Noise being introduced from an extraneous source which may be capable of producing interference.

NOISE CONDITIONS

OF THE VARIOUS conditions previously mentioned, perhaps the one most often neglected is that of noise being coupled into a system from an extraneous source. This type of noise may be coupled into the wire facility itself since it is essentially a flat-wire antenna and may be radiated from low-frequency radio systems or power line carrier operating near the lead or having considerable power.

At any rate, the operation of these external sources of power may be such as to generate frequencies which fall into the band of frequencies being used by the carrier system. By utilizing proper test equipment, the amount of interference to be expected on any given channel can be readily predicted.

Fig. 1 illustrates a typical make-up of a wire line facility for which it is desirable to determine noise interference. Also illustrated are impedance matching transformers which must be installed prior to performing any tests.

To discuss impedance matching at this time is beyond the scope of this article, so it is enough to say that each type of wire facility is so constructed as to contain certain

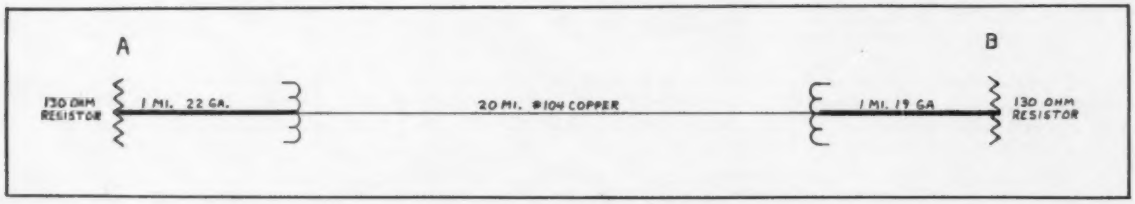


Fig. 1.

electrical constants—that is, inductance, resistance, capacitance, and leakage. For a given frequency, these constants create a certain fixed impedance which is essentially independent of length.

This fixed impedance is referred to as a facilities characteristic impedance. In order to permit maximum transfer of energy at a junction of unlike facilities, as well as to prevent other undesirable effects, it is necessary to create a condition whereby a certain facility essentially presents itself to another facility as that facility; that is to say, cable looks to open wire as open wire.

This is accomplished through the use of impedance matching transformers. As illustrated in *Fig. 1*, cable and open wire junctions are involved. Cable has a characteristic impedance of approximately 125 to 135 ohms, whereas open wire has a characteristic impedance approaching 600 ohms at the carrier frequencies involved; thus it is necessary to utilize a transformer having a turns ratio of 4:1, the ratio representative of the two impedances.

Impedance matching transformers may be supplied by manufacturers of carrier equipment at little or no cost for performing such tests, or where considerable amounts of carrier apparatus are utilized for providing transmission facilities, may be a real part of test apparatus and may be arranged for portability for performing such tests.

All that remains in preparation of the tests is termination of the facility in its characteristic impedance. As stated above, telephone type cable has a characteristic impedance of approximately 125 to 135 ohms and that of open wire approximately 600 ohms in the carrier frequency range. Thus, in this case, a pure resistance of 130 ohms would seem to do the job.

After having completed these preparatory steps, it is necessary to find a piece of testing apparatus that will do the job. There are several methods of performing these tests, but a frequency selective vacuum tube voltmeter (VTVM) appears to be the most desirable. Other methods not only appear to be less accurate; but, at the same time, considerable time and patience is expended.

Perhaps, at this time, a little discussion on this instrument would be in order. Frequency selective VTVM's are presently available with a scale calibration in decibels, "db's," relative to one milli-watt across 600 ohms as well as a scale calibrated in volts. Also, several makes have input transformers accessible through jacks to permit direct readings in db's without the necessity of adding some factor when measuring across 130 ohms. A "flat" VTVM, with which most of us are familiar, reads the R.M.S. value of a complex wave form imposed across the input terminals, while on the other hand, the frequency selective VTVM is nothing more than a tunable VTVM and must be tuned near to or at the frequency of the signal to be measured.

The frequency selective VTVM is then arranged so that its input terminals are bridged across the terminating resistance; measurements are recorded as the apparatus is tuned within the proposed operating band. It is also possible through the use of a high impedance headset supplied with this testing apparatus to determine the nature or origin of interference such as may be given by high-speed telegraph—like thumps—or as that of a radio transmitter being keyed.

When all tests have been completed, and having previously determined the level of the band of frequencies which would be received from the distant carrier terminal, it is possible to determine the amount and type of interference to be expected.

For example, let us make the following assumption:

(a) That a carrier channel will operate in the 150-154 kilocycle band and that the upper sideband is used; thus a signal of 151 KC would be 1,000 cycles/second when demodulated.

(b) That the proposed carrier signal will be transmitted at a level of +20 dbm from terminal A over a facility as is shown in *Fig. 1* with terminal B receiving.

(c) That during the noise measurements, a reading of a steady tone signal at 151 KC was indicated to be —50 dbm.

(d) That attenuation vs. frequency measurements were taken and that at approximately 150 KC the loss of the facility was found to be 25 db.

From the above assumptions, it can be concluded that the incoming carrier level at approximately 150 KC is —5 dbm; thus it is only 40 db above the noise level.

Signal-to-noise ratios in the neighborhood of 55 db are generally satisfactory; and, when systems are properly engineered, repeater sections maintained within exacting requirements, and proper transpositions employed, quite satisfactory service may be given.

ELECTRONIC DATA PROCESSING

DATAMATIC Division of Minneapolis-Honeywell has announced the development of its new model 400 high-speed electronic data processing computer, reported able to produce 6,000 operations per second.

The model 400 is described as a moderately priced computer for larger companies who previously could not make high-speed electronic

This newly developed computer, the Honeywell 400, contains up to six magnetic tapes with a central processor, a high-speed printer, and a card reader. Optionally, a standard or high-speed card punch is provided. In left background, is the central processor; the printer in foreground; a card reader (operated by lady) and high-speed tape units at right. The processor and card reader shown are "mock-ups."

data processing economically prove in. Walter W. Finke, Datamatic president, described the new generation computer as the "most powerful available in the moderate-price field."

In addition to the standard system of a central processor, four tape drives, a printer, and a card reader, one or two additional tape mechanisms can be added at any time. Optional equipment includes a standard or high-speed card punch.

Samuel D. Harper, director of sales engineering, Datamatic Division, reported:

"The central processor contains a memory of 1,024 words and operates with 48 bit words.

"The memory may be expanded to twice the standard size or 2,048 words by the addition of a second memory.

"In addition to the memory, the arithmetic unit and the control unit, the central processor contains the control circuits for a printer, a card reader, a card punch, and up to six magnetic tape units.

"The new high-speed printer, which is rated at 900 lines-per-minute, operates on the spinning drum principle and may contain up to 120 letters or numbers per line."

Other features of this newly developed computer include a card reader capable of reading 650 cards per minute, a standard card punch machine capable of operations on 100 cards a minute, or a high-speed machine capable of punching at 250 cards a minute.

Of special interest is the all-important tape unit. Mr. Harper states: "The transfer rate of information to or from the high-speed tapes is said to be 96,000 decimal digits per second. Orthotronic Control, a unique feature on the Honeywell data processing system, will automatically detect and correct any errors in or damage to information recorded on the magnetic tape."

THE SPACE AGE

IN THE October 17, 1959, issue of this magazine, a communication experiment called "Project Echo" was discussed. The project, in part, is being carried out by Bell Telephone Laboratories in cooperation with the National Aeronautics & Space Administration.

As was pointed out, a ground radio transmitting and receiving system is presently under construction at a Holmdel, N. J., site with the objective of performing several experiments which could conceivably bring about telephone communication and "live" television to distant parts of the world.

In the design of highly-sensitive radio receiving apparatus, special emphasis is placed upon reducing thermal noise and other forms of inherent interferences in order that weak signals may be selected, amplified, and faithfully reproduced.

An important part of the receiving apparatus, too, is the antenna system. If signals other than those wanted — whether noise or other types of interference—enter the receiver, then the receiver's capabilities have been reduced or perhaps even lost.

In a receiving station designed to search outer space for weak signals and permit their usage, many limitations are imposed by noise and other forms of interference created within the environment.

Bell Telephone Laboratories, realizing these limitations to reception of weak signals from space, recently conducted a series of experiments at Holmdel, N. J., with a low-noise antenna and receiver combination. With

the low inherent noise, the system can measure noise generated in the atmosphere with precision never before attained.

Bell Laboratories reported that the system includes a highly directive, narrow-beam, horn-reflector-type antenna of the design used for Bell System transcontinental microwave relays. The antenna is coupled to a low-noise traveling wave maser amplifier with unidirectional characteristics.

It was reported that tests conducted at 5.65 kilomegacycles with the horn reflector pointed vertically skyward showed input temperatures as low as 17.6 degrees Kelvin. This figure included noise contribution of the maser, antenna, and the sky.

Further tests indicated that with the low-side-lobe horn-reflector antenna pointed at the horizon, noise input rises rapidly; however, with the antenna pointed 10 degrees or more above the horizon, the system gives an improvement factor of 30 over the conventional microwave receiver indicating that the inherent low noise advantages could not be realized for point-to-point earth communication.

LONG-LIFE LAMPS

SYLVANIA Lighting Products, a division of Sylvania Electric Products, Inc., has announced the development of a new, low-cost, electronic indicator lamp with a life expectancy rated at up to 10 times competitive lamps. The new development has a rated life of 3,000 to 5,000 laboratory test hours.

According to the company, these small lamps will find extensive usage in the computer field with their wide range of voltages and low current consumptions. Lamps are presently available in 4, 6, 10, 12, 24 and 48-volt sizes with operation from different voltages being made to order. Current ratings are reported available from 35 to 45 Ma. with lower current ratings on request.

An electronic indicator lamp developed by Sylvania Lighting Products is rated to have a life expectancy of 3,000 to 5,000 hours. Filament relocation, due to flat-top end construction, increases candle power up to 60 per cent.

Utilizing new flat-top end construction permits relocation of the filament, greatly increasing end foot-candles and providing up to 60 per cent more light.

Included with the new product is a new line of redesigned plastic color lamp caps, multi-socket lamp strips for panel mounting, and single mounting sockets.

It has been suggested by the company that the color caps can be either snapped on or cemented to the lamp as desired. Color caps are available in a variety of colors.

WIRE DESIGN

A CHEMICAL method of coating copper with plastics was described recently at the American Chemical Society's national meeting at Cleveland, O.

Arthur T. Spencer of the Bell Telephone Laboratories reported that the bonding method would be of particular value for sealing transoceanic cables and also may benefit flexible printed circuits, microwave devices, and other electrical applications for which polyethylene has desirable properties.

In describing the new method, Dr. Spencer said, "High temperatures are employed to oxidize polyethylene. During the process, the plastic accepts some of the oxygen present on the copper plate and, in so doing, forms grippers that cling tenaciously to the oxygen remaining on the metal."

"The new bonding technique is considered a significant advance since it offers a simple method for structural bonding of polyethylene to high copper alloys or copper plate items without an intermediate adhesive material or polyethylene surface treatment. In particular, aside from general polyethylene copper sealing applications, the method is of interest and is being developed for electrical applications where the excellent electrical properties of pure polyethylene cannot now be realized due to bonding problems."

Co-author was Richard G. Baker, an associate member of the staff of Bell Telephone Laboratories.

ELECTRONIC BOOKS

MATHEMATICS REFRESHER

by Kurt Walter. 96 pages; $3.75.

It has often been stated, and proven, that no problem is more easily solved than one which may be extended to "mathematical terms," also the problem is not subject to as many interpretations as it is when stated in words. For this reason, mathematics is utilized in explaining

the phenomena of electronics. It is impossible to learn even the very basic fundamentals of electronics without some knowledge of mathematics, the foremost part of which is algebra.

The reader interested in electronics, but who finds himself unable to comprehend certain presented matter, because of his lack, or forgotten knowledge, of algebra, will find this book of great assistance in alleviating these shortcomings.

Right from the beginning, this book introduces the reader to literal numbers, by developing the person's knowledge of natural numbers in a detailed step-by-step manner. Topics discussed include calculations with relative numbers (positive and negative), fractions and proportions, solving equations with one or more unknowns, and powers, roots, and logarithms.

This book may be ordered from TELEPHONY.

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HANDBOOK OF BASIC CIRCUITS
by Matthew Mandl; $7.50.

This book is a presentation of 136 circuits commonly used in AM and FM radio and in television. However, the circuits are basic electronic circuits and are found in industrial and commercial applications as well. Each circuit treatment includes a diagram, a description of its use, and an explanation of how it works. Mathematics are held to a minimum. Just the thing for the "circuit man" who can understand things better from a circuit diagram than he can from a learned discourse on the subject.

When you get into electronic switching, data transmission, etc., and find out that you don't know for sure what a blocking oscillator, or a limiter, or a phrase inverter is, this is the book to tell you the answers. It is available from TELEPHONY.

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The Government Printing Office has recently announced the availability of a list of publications on electronics, electricity, radar, and radio.

I am certain that those of you who are interested in these topics will want to review the list. It may be obtained by writing U. S. Government Printing Office, Division of Public Documents, Washington 25, D. C.

Future listings of available government publications and documents may also be obtained by stating the desirability of subscribing to this service.

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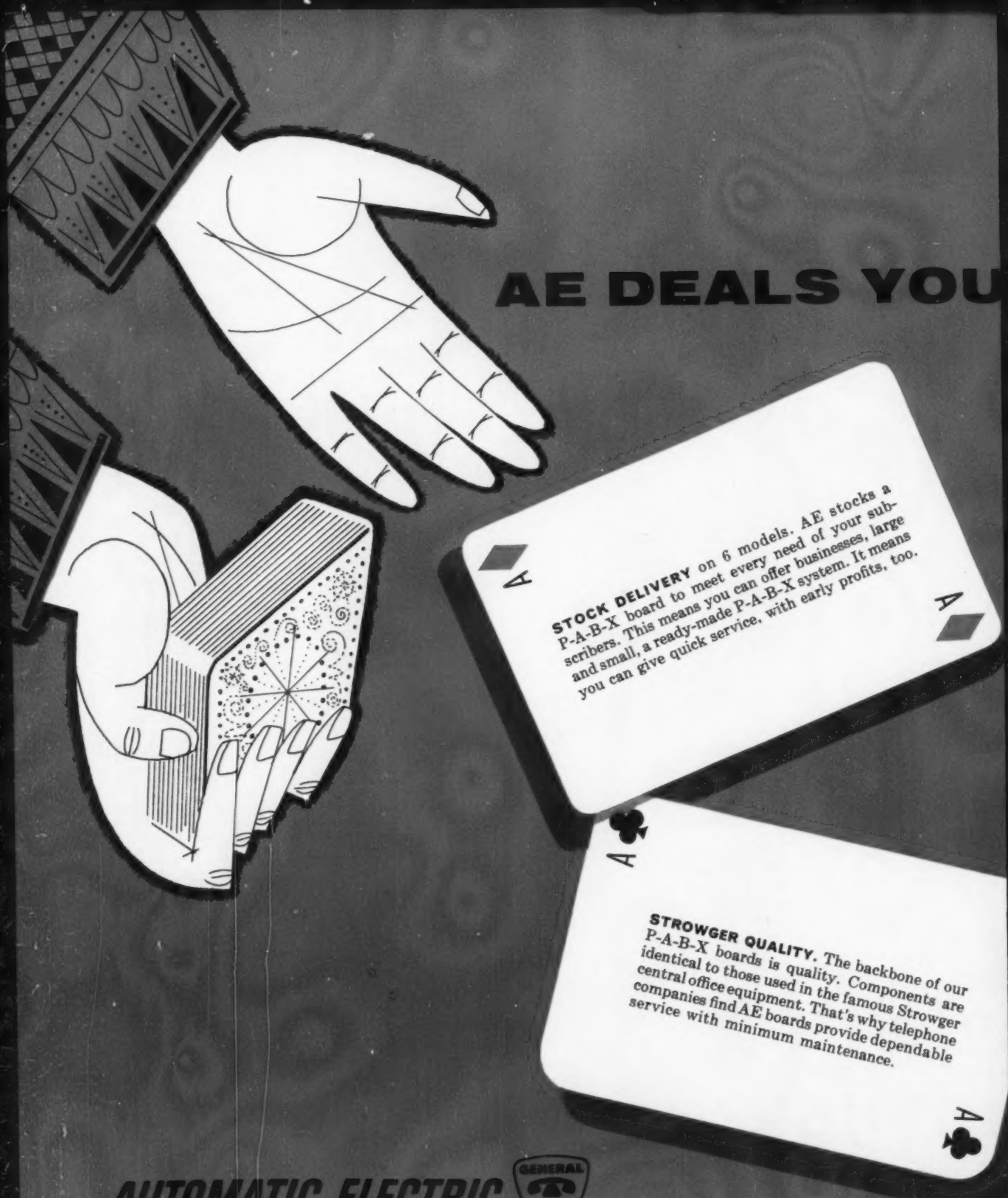
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THE 60's DECADE OF DISCOVERIES, OHIOANS TOLD

By DANIEL W. DE HAYES*

"A TREASURE Chest of Ideas" was the theme at the Ohio Independent Telephone Association's 65th annual convention, held Mar. 29 and 30, in Columbus.

Presiding over the new streamlined two-day conference was OITA's president, James C. Hageman, vice president of Lorain Telephone Co.

During the convention's business sessions, Robert D. Gott, general manager of Wellington Telephone Co., was elected president for the 1960-61 term, succeeding Mr. Hageman. Elected to the vice presidency was Howard C. Slusher, president, Commonwealth Telephone Co. of Athens. Daniel W. DeHayes of Columbus, was re-elected to the post of executive vice president and secretary-treasurer, a position he has held since 1953.

Re-elected to the OITA board of directors were William C. Henry, Northern Ohio Telephone Co., Bellevue; Ralph F. Mateer, Warren Telephone Co.; Raymond J. Maxwell, Mansfield Telephone Co.; J. Warren Safford, Troy-Tipp Telephone, Inc.; R. R. Waltz, Delta Home Telephone Co., and Howard Wright, Ashtabula Telephone Co.

More than 600 delegates from Ohio's 91 Independent telephone companies registered to hear timely topics on telephony and to view 40 exhibits depicting new developments and techniques. The keynote address was presented at the Mar. 29 luncheon by John T. Naylor, vice president, International Telephone & Telegraph Corp. of New York City.

The Sixties—Decade of Discoveries

Speaking on "The Sixties—Decade of Discoveries," Mr. Naylor told of the great advancements the telephone industry can anticipate during this 10-year period.

"As the time and interest dimensions of the world shrink," said Mr. Naylor, "telephone communications grow in ascending geometrical proportions. Many more high quality submarine cable routes throughout the world are planned. There will be improvements and expansion in tropospheric (over-the-horizon) systems feeding into the domestic toll system. It may be that satellite or moon reflection communications will increase volumes and speed services. Independent telephone company toll terminations, operating practices, and revenues may be affected."

Concerning toll usage per average day, Mr. Naylor said that it has increased from 5,923,000 per day in 1949, to 9,224,000 calls per day in 1959. In the domestic toll picture for the Sixties, he predicted that the present 15 million telephone users able to dial directly on a nationwide basis will probably increase to 75 million or more by 1970.

Concerning other predictions for the Sixties, Mr. Naylor stated that "complete residential service" will be commonplace. This would include telephone intercommunication systems between homes, garages, swimming pools and other areas in our diversified modern living arrangements. "Telephones would provide the means to start and stop burglar alarms, lock doors, turn off lights, open garage doors, and many other functions which we would now regard as unusual."

In conclusion, Mr. Naylor offered OITA delegates, as apropos of the telephone industry, Thomas Edison's admonition expressing the simple dedication of his own genius: "There's a way to do it better. Find it!"

Community Development Kit

Richard S. Zachman, of Marion, O., public relations information supervisor of General Telephone Co. of Ohio, unveiled the Ohio association's "Community Development Kit."

The kit entitled "Ohio Communities on the Grow" is a working portfolio of ideas especially designed for use in communities of 5,000 population or under, to develop bigger and better communities in areas served by Independent telephone companies. Specifically, it contains a "Survey of Community Resources," 21 questions to be used by citizens in studying their own local conditions. After the survey has been made in a community and its citizens know where to expend their efforts, a complete organizational "Plan of Action for a Better Community," contained in the kit, will assist them in setting up definite practical goals and

*Mr. De Hayes is Executive Vice President of the Ohio Independent Telephone Association.

committees to put their plan effectively into action.

Highlighting Mr. Zachman's presentation of the Community Development Kit was a simulated telephone conversation from Atlantic City with Koder M. Collison, director of the Ohio Department of Industrial and Economic Development, who assisted in the preparation of the kit. To an audience unaware that the "telephone call" was fictitious, Mr. Zachman and Mr. Collison emphasized the urgent necessity for everyone to give his share in building his town's health insurance for the future. In addition, delegates were shown the motion picture "Ohio—the Growth State," a film produced by the State of Ohio to attract new industries. According to Mr. Zachman, three one-day meetings for all interested OITA members will be held this spring to explain the kit instruction and how best to use it.

More than 400 delegates "marched the gangplank" to the association's "Captain Kidd Hospitality Party." Greeted by Captain Kidd himself and his band of "pirate" delegates, in full costume, guests received sacks of gold candy coins as favors, danced to calypso music and tried their luck at opening the treasure chest which contained two tickets to see real live "Pirates"—the Pittsburgh Baseball Team!

USITA President McHenry Speaks

The last day of the convention started out on a bright note with an "early bird" Pioneer breakfast for the Buckeye State Chapter, Independent Telephone Pioneer Association. Elected as 1960-61 chapter officers were Mrs. William Dutch, Elyria Telephone Co., president; H. M. DeGroff, Troy-Tipp Telephone, Inc., vice president, and R. W. Sheldon, Commonwealth Telephone Co. of Athens, secretary-treasurer. Entertainment was provided by the "Dogpatchers," a novelty quintet of Ohio Fuel Gas Co. employes.

Miss Frances McGovern, member of the Ohio Public Utilities Commission, who brought greetings from the commission. Miss McGovern, appointed to the commission last January, is the first woman in Ohio to be named to this position.

Foster B. McHenry, of Jefferson City, Mo., president of the United States Independent Telephone Association, in an address, "The Golden Decade Is Here," said that "Our business is experiencing a tremendous rate of growth. In fact, it is reported that this growth rate is presently running ahead of the Bell System!"

Mr. McHenry claimed that the voice of the Independent today is being heard more and more in important national councils. He attributed much of this recognition to the industry's national advertising program.

"National advertising," he said, "has been successful in identifying the Independent companies in the public's mind; providing expansion capital for the companies; promoting a better atmosphere for more adequate rates; attracting capable personnel; building goodwill and public confidence; and promoting the American system of free enterprise.

"Today the Independents nationally are operating nearly 11 million telephones, with plant investment reaching a figure of 3½ billion dollars. We have over 100,000 employes in over 3,800 companies, serving the public in almost 11,000 towns and cities."

Mr. McHenry stated that 54 per cent of the world's telephones (125 million) are located in the U. S. "This is reason enough for optimism. The brightest years and largest opportunities lie ahead, because it is estimated that by 1980, there will be 77 million more people in the United States."

If Independent companies are to prove equal to the coming opportunities, Mr. McHenry urged that they must recruit a greater number of young people, have more technical trainees to cope with new and unknown problems, establish higher trainee standards for executives, management, and supervisory positions, attract more investors who will demand competitive returns on their investments, and obtain higher earnings than presently allowed by regulatory commissions.

Following Mr. McHenry's address

LEFT PHOTO: As Daniel W. DeHayes (right) OITA executive vice president, holds the treasure chest, "Captain Kidd" presents its contents of two Pittsburgh Pirate baseball tickets to C. W. Kinman (left) of Columbus, whose lucky key opened the lock. This was all a part of the association's convention gala Captain Kidd's Hospitality Party. RIGHT PHOTO: Spring weather welcomed Ohio convention delegates both in Columbus and at the official registration desk (shown above), which was gaily bedecked with showy pink azalea plants.

LEFT PHOTO: OITA President James C. Hageman (right), presenting one of the association's highest honors, the "Beyond the Call Award," to Kenneth J. Pontius Sr., an installer for the Western Reserve Telephone Co. of Hudson, who on a routine installation call, heroically saved the lives of two Twinsburg, Ohio, residents, overcome by coal burner fumes. Mrs. Pontius proudly watched her husband receive the inscribed silver platter. RIGHT PHOTO: Holding Community Service Awards for outstanding programs in the field of community relations are representatives of the winning Independent companies. Left to right: Weldon W. Case, president, Elyria Telephone Co.; Nelson H. Case, vice president, Western Reserve Telephone Co. of Hudson; Paul H. Kaufman, director of public information, Northern Ohio Telephone Co. of Bellevue; G. T. Winn, public relations director, General Telephone Co. of Ohio of Marion, and Harold W. Werner, auditor, Lorain Telephone Co.

Daniel W. DeHayes, executive vice president and secretary-treasurer of OITA, spoke on the subject "Living with Our State Governmental Problems." The final speaker of the morning's business session was Gordon Gardner, Columbus *Citizen-Journal* and Columbus *Dispatch*, speaking on "Improving Your Newspaper Advertising." With Ohio Independent telephone companies' advertisements as background material for his presentation, Mr. Gardner suggested practical ways to increase the effectiveness of present telephone advertising programs.

Awards Presented

At the Wednesday luncheon session on Mar. 30, awards were presented to various telephone companies based on their programs of outstanding community relations, and employe safety. Additional awards were presented to individuals having outstanding past service records in the industry.

Presenting the Community Service Awards, was Robert D. Gott of Wellington, OITA vice president. The recipients included Elyria Telephone Co., General Telephone Co. of Ohio of Marion, Lorain Telephone Co., Northern Ohio Telephone Co. of Bellevue, and Western Reserve Telephone Co. of Hudson.

Past Service Awards, an innovation at this year's convention, were given to those individuals who have spent 50 years or more in the telephone industry, and who, during that period, have acted as an OITA officer, director, or have served on an association committee. Presenting these awards was USITA President McHenry.

Accepting Past Service Awards were J. D. Bonnar, Ashtabula Telephone Co., 59 years; J. D. Park, Kenton Telephone Co., 60 years; Herman E. Hageman, Lorain Telephone Co., 60 years, and J. Warren Safford, Troy-Tipp Telephone Co., Troy, 55 years.

The Safety Awards, which were presented by J. Maynard Dickerson, chairman, Industrial Commission of Ohio, were divided into two categories of seven groups each. The first category of Safety Awards was presented in a group classification to organizations having the best safety record, based on the number of man hours of labor exposed to accident. The winners were General Telephone Co. of Ohio, Lorain Telephone Co., Ashtabula Telephone Co., Champaign Telephone Co. of Urbana, Kingsville Telephone Co., Vanlue Mutual Telephone Co., and Ottoville Mutual Telephone Co.

The second category, the 100 per cent awards, were presented to companies that had no accidents whatsoever during 1959. This distinguished group included:

Lorain Telephone Co., Elyria Telephone Co., Ashtabula Telephone Co., Champaign Telephone Co., Wellington Telephone Co., Conneaut Telephone Co., Community Telephone Co. of Leipsic,

(Continued on page 52)

Standing beside exhibit featuring a photographic blowup of the Ohio association's newly designed Community Development Kit was Richard S. Zachman, public relations information supervisor, General Telephone Co. of Ohio. Mr. Zachman, who was instrumental in the preparation of the kit, presented it to the association's membership for the first time at the convention.

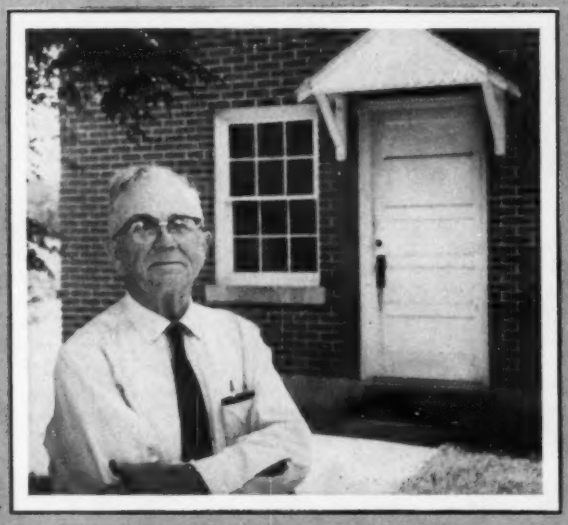
RAYTHEON

in the power field

NEWS ABOUT RAYTHEON TELEPHONE POWER SUPPLIES

Raytheon Company, Commercial Apparatus and Systems Division, Manchester, New Hampshire

RAYTHEON RECTICHARGER STILL IN SERVICE AT PEOPLE'S MUTUAL (VA.) AFTER 20 YEARS



Mr. E. B. FITZGERALD, president of People's Mutual Telephone Company with headquarters at Gretna, Virginia. The company founded by Mr. Fitzgerald's father 80 years ago serves over 1,600 subscribers in Gretna, Hurt and Renan, Va. Raytheon battery chargers are used in each of the three central offices.

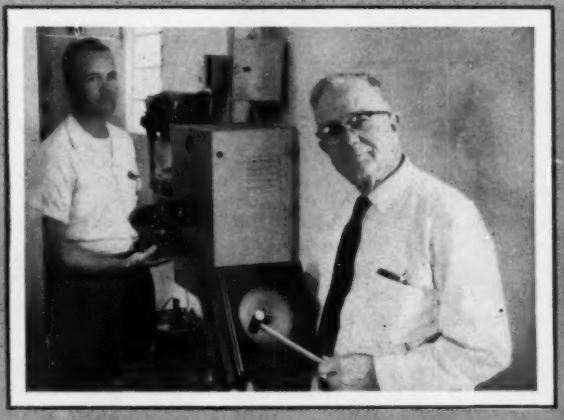
Unit installed in December, 1939 when 80-year-old-company switched to dial

"Ours is a concern that grew from the most humble beginnings", explains E. B. Fitzgerald, president of People's Mutual Telephone Company, now headquartered at Gretna, Virginia.

Mr. Fitzgerald goes on to explain that his father established a primitive communications system between his home and office some 80 years ago--the first installation using a large box-like diaphragm which acted as both mouthpiece and receiver.

When the company converted from magneto to dial in December, 1939, a Raytheon Recticharger was installed. Since that time, Mr. Fitzgerald reports, "despite the fact that our subscriber list has grown over fourteen times, the 3-ampere, 50-volt battery charger has performed its task with top efficiency, without failure or maintenance problems". Each of the company's three central offices is now equipped with a Recticharger.

E. B. FITZGERALD and E. B. JR. compare modern dial telephone with early telephone instrument used by the elder's father 80 years ago. The senior Fitzgerald demonstrates an early method of "ringing" by striking the diaphragm with a rubber hammer to attract the distant party. The twenty-year-old Raytheon Recticharger is on the wall between them; batteries are at bottom left.



To learn about the Raytheon 1960-model telephone power supplies, please write to Raytheon Company, Manchester, N. H., for the latest product data.

In the power field . . . Raytheon power supplies for: PBX • PABX • MANUAL • STEP-BY-STEP X-BAR • AUTOMATIC TOOL TICKETING • ELECTRONIC SWITCHING • CARRIER • MICROWAVE

Must Sell to Meet Competition, North Dakotans Told

By Dan S. Fargo

WHEN A PLAIN, honest man talks with strong convictions and sincere enthusiasm about his product, and knows what he is talking about, he will make plenty of sales, Karl Kharas, sales training supervisor, Northwestern Bell Telephone Co., said in his talk before the first joint convention of the North Dakota Telephone Association and the North Dakota Association of Rural Telephone Cooperatives. The two associations met on Mar. 21 and 22 in Fargo, N. D., with Don H. Brooks of Hazen, NDTA president, presiding.

Mr. Kharas said the telephone manager who doesn't sell will not have a very bright future. He explained: "We used to think, in our business, that we had a monopoly. It just ain't so. Anything as important as communications, in a country like ours where everyone likes to talk, anything with a sales potential like the telephone business, is bound to attract competition."

He went on to say that Western Union is coming to life with a lot of new ideas that may put a crimp in toll business. Point-to-point radio systems are being sold cheap. Microwave systems are being sold to many so-called right-of-way companies — pipe lines, utilities, transit and taxi cab companies. He pointed out such systems tend to decrease the use of the telephone for long distance service, and some day there may not be enough profit in what's left to keep telephone companies in the black.

"A hundred different brands of squawk-box intercoms are on the market, and brother, they're beginning to sell like hot cakes," he warned. "Even the post office is experimenting with facsimile transmission of letters by wire."

Mr. Kharas said that if telephone companies don't meet this competition with good selling and good service, they'll be in trouble in five years. He continued:

"We don't want the same thing to happen to our business that happened to the railroads—we don't want to face an era of bankruptcy or near-bankruptcy, of high debt and low earnings, of diminishing business volumes.

"It happened to the railroads because . . . they were hide-bound—they couldn't change their way of doing business — they underestimated the threat of truck and airplane competition. And it can happen to us. Frankly, we are facing a crisis."

In this crisis, Mr. Kharas said, the opportunity lies in accepting and selling the new services and equipment being designed to give subscribers better service and more service. Among the new services and equipment he listed were:

The home interphone — comprising speaker-microphone units in various rooms, plus ones at the front and back doors, which permit communication from any part of the house. Mr. Kharas said it is thought this arrangement will be the greatest breakthrough in residence service in the history of the telephone.

The farm interphone—a similar system, tying together important locations on the farm.

A personal signalling service — a pocket-size radio receiver which can alert the possessor that he should go to the nearest telephone and call home or office.

The Princess telephone — taking up half the space of the usual handset, having an oval shape and a dial-lighting feature.

Mr. Kharas observed that more telephone usage awaits stimulation through advertising the telephone's time-saving features. He stated: "Nothing is more disappointing than a drive that turns out to be useless—if the bank is closed, or the store doesn't have what you want, or the people aren't at home. A local or long distance phone call before starting out is a saving of time, gasoline, money and tempers. People will make a habit of such calls if you

The buried plant panel consisted of (l. to r.) William Stake of Lennox, S. D.; Gordon Brown of Enderlin, N. D., and Robert H. Keating of Wausaukee, Wis.

Convention registration for the first joint meeting of the North Dakota Telephone Association and the North Dakota Association of Rural Telephone Cooperatives.

use reminder advertising, in the newspaper and radio."

Mr. Kharas urged placing most emphasis, in selling, on long distance—where the most profit is. The Independent company whose customers use $10,000 more long distance this year than last, will retain $5,000 to $6,000, with no increase in investment and practically no increase in expenses, he said.

To promote toll usage, telephone men need to recognize that the average businessman doesn't know how to use long distance service effectively. Mr. Kharas explained: "We ask questions, find out how they operate, how they sell their product, how they collect delinquent accounts, how they buy their supplies, things like that. This brings their problems to light—where their costs are high, where they are losing business, where they need to cut losses. Then we suggest plans for solving some of these problems through the systematic use of long distance."

Long distance service selling works as well, if not better, with small business firms, Mr. Kharas remarked. The small companies often cannot afford to cover their sales territories with a force of professional salesmen. Mr. Kharas said one small packing company had written a Bell System salesman:

"We are meat packers selling to 300 customers in Oregon, Nevada, Washington and California from our Idaho plant. Without long distance, our customer lists would have to be reduced to 150."

Mr. Kharas reported that Northwestern Bell has several hundred exchanges with less than 200 telephones, and the company finds that, for their size, the sales market is even better, and easier to sell, than it is in the cities.

Two informative panel discussions were features of the convention. The first—with panel composed of Gordon Brown of Enderlin; Robert H. Keating of Wausaukee, Wis., and William Stake of the Stake Construction Co., Lennox, S. D.—discussed buried plant.

Mr. Brown outlined the history of buried plant, including the burying of plain lead cable in 1919 (subsequently nearly all consumed by electrolysis); in 1926, the protection of the lead sheath with tar and tar paper; tape-armored cable by 1936 (economically within the reach of most small companies, although somewhat too high-cost for rural lines).

Don H. Brooks of Hazen, outgoing president of the North Dakota Telephone Association, calls off a prompt-attendance prize winner.

Now, Mr. Brown said, the manufacturers have brought the cost of buried cable, for rural usage, down within the reach of most small companies.

Backing Mr. Brown up on this latter statement was Mr. Keating with his company's experience following a storm which severely damaged part of its rural lines. The company engineer calculated the replacement cost for both buried and aerial plant. It was found that, even allowing for the extra cable pairs needed underground, the buried plant would cost considerably less.

Mr. Keating said that in installing their underground cable, his company followed the private right-of-way about half the distance, and the shoulder of the road the other half. They placed terminals in the fence line. Wherever they hit rock, the line went aerial if possible. In some very rocky places, they put split steel guards over cable buried only 12 inches deep when it was not possible to go around or go aerial.

The company also buried some slack to allow for possible road-widening or raising of terminals. Mr. Keating also recommended using buried cable markers; and he stressed the importance of maintaining accurate records. "Underground is here to stay and is the coming thing," he stated.

Mr. Keating reported his company did not have to pay for rights-of-way—farmers were happy to have poles and lines out, feeling it improved the appearance of their farm. There was some slight cost for crop damage, he said.

During movies of his company's installations of buried plant under various conditions, Mr. Stake commented that they can plow in an average of about 3 to 5 miles a day, with extremes, under adverse and favorable conditions, running down to ¼ mile and as high as 8 miles.

Lawrence Schneider of the North Dakota Development Association, Bismarck, discussed "North Dakota's Future and the Challenge." He forecast a half-trillion-dollar rate for the gross national product early this year, and, by 1970, one ranging between 700 and 800 billion dollars. The future also beckons with increasing amounts of spendable income and more leisure time for citizens of the U. S.

Mr. Schneider urged North Dakotans to strive to balance agriculture with light and heavy industrial development;

(Continued on page 58)

Attention Throughout the Year Best Gift to Mother

By Mayme Workman

EACH YEAR a special day is set aside to honor one of God's most precious gifts—our Mother. On this day we should do full honor to her love and devotion; however, we should resolve to continue the spirit of the day throughout the year. We should honor our Mother by living the finest and best life of which we are capable.

Mother's Day being Sunday, arrange to take her first of all to the church of her choice. Above all else, do not allow her to spend the day cooking for a houseful of company returning home to do her honor. Do not allow her to wash a mountain of dishes while the rest of the tribe takes an afternoon nap. Of course, she will desire to help, but if the family is having dinner at home, shoo her out of the kitchen after the meal has been eaten. Remember—this is *her* day.

What about a gift for Mother? The best gift of all is a little of yourself, your time and attention, not only on her special day but throughout the year. After you have given her this most precious gift, there are many other remembrances that Mother will appreciate, such as a brand new and entertaining book, a bouquet of flowers, or a rare variety of rosebush for her flower garden. If you present her with the rosebush, be sure to help her plant it in a spot she has selected.

Candy, letters and greeting cards, and something new to wear are other gift suggestions. Or, you might take her out to dinner to a place that is not too noisy or too quiet, a place where the food is unusually good and where she will be happy to be seen.

Mother's Day is a good time to remember how she cared for us when we needed her loving care and devotion—the lullabies she sang to us, how she helped us take our first step, her tender hands that brushed away our tears, her words of counsel, love and cheer, her understanding love when things went wrong.

On Mother's Day the writer recalls a song she loved to sing to her dear mother, which is a tribute to all mothers, especially on their day:

"M—Is for the million things she gave me,
"O—Is only that she's growing old,
"T—Is for the tears she shed to save me,
"H—Is for her heart of purest gold.
"E—Is for her eyes with lovelight shining,
"R—Is right and right she'll always be,
"Put them all together they spell Mother,
"A word that means the world to me."

The nation proudly honors its mothers on Mother's Day. It is a recognition on our part of the reverence and love due them for their unselfish devotion. They appreciate the gifts we present to them, but most of all they appreciate our kind and loving attention, giving a little of ourselves—not only on their special day, but throughout the year.

No matter how old we may be, to mother we are still the little boy or little girl they reared with kind and loving care. If you are among the fortunate ones who still have their mother on this earth, why not go all out to make this the best Mother's Day ever! Next year may be too late to let her know how much you love her.

Intervened Cuban Company Shows '59 Earnings Loss

The Cuban Telephone Co., in its annual report to stockholders, revealed recently that while operating revenues for 1959 were up approximately 5 per cent, the operating expenses, excluding taxes, went up 24.6 per cent, resulting in a decrease in net earnings for the year.

Net income amounted to $1,210,109 in 1959, compared with the previous year's figure of $3,347,244, a decrease of 63.8 per cent.

Antonio Rosado, president of the company, said in his annual report to stockholders that an intervener appointed by the Cuban government in March, 1959, has continued to operate the company since that date.

However, in the absence of the company's management, International Telephone & Telegraph Corp., holder of 65 per cent of the outstanding common stock, has made representations to the Cuban government seeking to secure the restoration of normal operating conditions and adequate rate levels.

"The ultimate effect of the intervention or of future governmental action on operations of the company is not presently determinable," the president said.

During 1959, he reported, the Cuban Telephone Co. accrued the full $6.00 per share dividend on the 6 per cent cumulative preferred stock, of which $4.50 per share had been declared by the intervener at the year's end. No dividends were declared on the common stock during the year. The company paid $8.00 per share in 1958.

A comparative statement of the company's earnings follows:

	1959	*1958*
Revenues	$22,090,670	$21,038,510
Operating expenses, excluding taxes	18,249,624	14,648,441
Net income	1,210,109	3,347,244
Net income after preferred dividends per average common share	$1.73	$7.31
Dividends per common share	—	$8.00

N.D. Cooperative Inaugurates Dial Mobile Telephone Service

The Burleigh-Emmons-Kidder Rural Telephone Association, Steele, N. D., recently inaugurated push-button dial mobile telephone service.

The company stated units are being installed in subscriber's cars at the rate of one a day. BEK officials reported about 15 initial applications for service and expect more.

The mobile units are useful to rural electric cooperative employes, freight line operators, businessmen whose work takes them out into the territory, farmers, ranchers and school bus operators.

The BEK company's transmission towers are located at Tappen and at McKenzie.

The system is designed to render service within 45 miles of either tower, but company spokesmen said they have been able to reach out 60 miles and further depending on topography and climatic conditions.

Taking a Stand

An editor in the *Saturday Review* notes with interest this comment from NBC staffer Stockton Helffrich, who passes on TV scripts:

"You have to take some calculated risks if you stand *for* something, even actively displease a peripheral few if it's part of the price for advancing a common and responsible good."

Courts and Commissions

Asks PT&T in Wash. To Use USITA Separations Manual

The West Coast Telephone Co., Everett, Wash., it was reported on Apr. 13, has filed a complaint with the Washington Public Service Commission requesting that the Pacific Telephone & Telegraph Co. be required to accept the procedures set forth in the United States Independent Telephone Association Separations Manual for determining toll settlements between the two companies.

No formal agreement for computing the division of toll charges has been in effect between the two companies since January of this year when West Coast cancelled a prior agreement of August, 1958. According to the complaint, West Coast entered into the 1958 traffic agreement with the Bell System company as a "temporary" expedient following cancellation of a similar pact dated August, 1953.

Following the 1958 agreement, the complaint states, West Coast "has requested that such agreement be revised upon a more equitable basis," but that Pacific Telephone "has refused to enter into a reasonable and proper agreement. . . ."

Similar toll settlement actions against Bell System companies have been filed recently by three other Independent companies—General Telephone Co. of Florida, General Telephone Co. of Ohio and General Telephone Co. of Kentucky.

Montanan Petitions Court To Vacate Bell Increase

A Helena, Mont., attorney, C. W. Leaphart Jr., on Apr. 6 asked the 1st Judicial District Court to vacate the Apr. 1 rate and toll increases for the Mountain States Telephone & Telegraph Co., which became effective on Apr. 1 (TELEPHONY, Jan. 30).

Acting on his own, the attorney filed a petition claiming that the increased rates are "unlawful, unreasonable and unjust," "improper" and "capricious."

In case of litigation, Attorney Leaphart also asked that the court order Mountain States to "freeze" the amount of the increases. If they then are cancelled, he asked the court to order the amounts to be repaid to the subscribers. In his petition, Leaphart cited both Mountain States and the Montana Public Service Commission as defendants.

The Montana commission on Jan. 11 had ordered an increase in the company's rate schedule, in tolls, and in charges.

On Feb. 29, a rehearing was denied.

On Apr. 1, the increase became effective, and is designed to yield a net of $1,125,939 annually to the Mountain States company.

Mr. Leaphart contended in his suit that the increase in the net revenues "is more than 50 per cent annually."

Approve Rate Increase For Kansas Company

The Kansas Corporation Commission, it was reported on Apr. 7, authorized the Gorham Telephone Co., Inc. to increase rates at its four exchanges by $7,251 annually.

Exchanges that will be affected by the new rates are Gorham, Victoria, Olmitz, and Galatia.

A company spokesman stated that the increase was necessary to meet expenses.

Two Wisconsin Companies Seek Rate Increases

The application of the Utica Farmers Mutual Telephone Co., Gays Mills, for a rate increase was to have been heard by the Wisconsin Public Service Commission on Apr. 25.

On Apr. 27, the commission scheduled a hearing on the rate raise application of the Iron River Water, Light & Telephone Co.

Approve Sale of Three Exchanges in Ohio

The Ohio Public Utilities Commission recently approved the following sales:

The Leroy Telephone Co. has been acquired by the Ohio Bell Telephone Co.

The Chardon Telephone Co. has purchased the Thompson Telephone Co., which operated exchanges at Thompson and Montville.

Claims Damaged Hearing; Sues PT&T for $150,000

A former concert violinist and composer, it was reported on Apr. 8 in Los Angeles, Cal. has filed suit for $150,000 damages in Los Angeles Superior Court from the Pacific Telephone & Telegraph Co. The musician, Ralph Rose, Jr., claims that a blast of sound from a telephone permanently injured his hearing.

Mr. Rose, now a supervisor in industrial motion picture production for a Columbus (Ohio) aircraft plant, contended that he suffered a 30 per cent loss of hearing in his left ear as a result of a telephone call he made from a paystation in Sherman Oaks, Cal. two years ago.

He said that while holding the receiver to his ear, there was a sharp report, and that his hearing thereafter was affected to the extent that he had to give up his musical career.

Pacific T & T has denied negligence in the matter. The case is being heard by Superior Court Judge David Coleman.

Ark. Independent Asks to Sell 7 Exchanges to Bell

The Arkansas Public Service Commission on Apr. 20 was to have heard the application of the Union Telephone Co., Smackover, to sell some of its exchanges to the Southwestern Bell Telephone Co.

The exchanges sought by the Bell company are Smackover, Norphlet, Calion, Village, Urbana, Mount Holly, and Chidester, all of which are adjacent to Bell's service areas at El Dorado, Magnolia, and Camden.

PSC Ordered to Rehear Nev. Company's Raise Request

A new hearing on the rate raise request of the Southern Nevada Telephone Co., Las Vegas, has been ordered by the Clark County District Court (TELEPHONY, Feb. 27).

The Nevada Public Service Commission was to hold the hearing on Apr. 21 in accordance with the court's ruling that the commission must reconsider

the company's request in the light of new evidence submitted by the company.

The commission had estimated that rates it had allowed would have increased the company's net income by $300,000.

This was 30 per cent less than the company had requested.

Frank Dresslar, Southern Nevada Telephone Co. president, said that "the application for rate increases filed last June was necessary because earnings had been declining for several years due to constantly increasing costs of operation and the tremendous expansion of telephone plant required. . ."

He also stated that in a "hearing before the commission in November, 1959, the commission had before it no operating figures more recent than for the 12-month period ending Aug. 31, 1959. From these, Dresslar continued:

"A small rate increase was granted to become effective Feb. 1, 1960, eight months after the application was filed by the company.

"Between August 1959 and the date of the . . . increase, expenses had mounted more rapidly than revenues, and the company had spent over 3 million dollars for additional telephone facilities. . . .

"The company in this period has been building telephone plant at the rate of about $400,000 per month and the new evidence merely brings up to the date of the rate increase, figures that should be considered by the commission in the company's appeal for additional rate relief."

West Coast Gets Preferred And Bond OK in Oregon

The West Coast Telephone Co., Everett, Wash., on Apr. 20 gained authority from the Oregon Public Utility Commissioner to sell 80,000 shares of its $25 par cumulative preferred stock, $1.44 dividend series of 1960, to:

New York Life Insurance Co.	(40,000 shares)
The Mutual Life Insurance Co. of New York	(20,000 shares)
New England Life Insurance Co. Mutual	(20,000 shares)

and to sell 3 million dollars of 5¾ per cent first mortgage bonds, due 1990, to:

John Hancock Mutual Life Insurance Co.	$1,000,000
California State Employes Retirement System	1,000,000
Aid Association for Lutherans	500,000
Modern Woodmen of America	300,000
Banker's Life Insurance Co. of Nebraska	200,000
	$3,000,000

The commissioner stated that West Coast's capital ratios as of Jan. 31, 1960, and pro forma after giving effect to the approved security issues, are:

	1/31/60	*Pro Forma*
Bonds	46.67%	47.72%
Preferred stock	15.96	17.85
Common Equity	37.37	34.43
	100.00%	100.00%

Ask Rate Raise; Authorize Merger of Three in Pa.

The Peoples Telephone Corp., Butler, recently petitioned the Pennsylvania Public Utility Commission to approve a $283,600 rate increase for 24,811 subscribers.

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Also in Pennsylvania, the commission granted the Luthersburg Telephone Co. permission to merge with the Brookville and Penfield Telephone Cos. The merged companies, which will serve 6,000 subscribers, are all subsidiaries of Telephone Utilities of Pennsylvania, Inc.

New York Independent Sets Up Scholarship Fund

A scholarship fund has been established by the Orange County Telephone Co. in cooperation with Local 1948, International Brotherhood of Electrical Workers.

Ralph G. Dodd, company commercial manager, said a six-member committee of the two groups decided the scholarship fund is to be financed with the profits received from the sale of candy, soda and milk which is sold within the plant. In addition, Mr. Dodd noted, the company board of directors and members of the local have made direct contributions to the fund.

Scholarship awards will be based on and will not exceed tuition paid by resident students of Orange County attending Orange County Community College. General-type scholarships will be awarded based on scholastic ability, achievement, potential as a college student and character.

Only children of regular employes of the Orange County company will be eligible for awards. Plans call for awarding two scholarships each year. They may be used at any college or accredited school of higher learning, Mr. Dodd said.

Service to Stockbroker

A telephone answering device is filling in after hours for a British stockbrokerage, according to a report in the London *Financial Times*. Installed for the firm of Greener Dreyfus, the machine, it is stated, "will be of particular use to the small investor whose normal duties frequently prevent him from speaking to brokers during normal working hours and who would be assisted by leaving an inquiry or instruction while the matter was fresh in his mind."

Scholarship committee members view plan for establishing Orange County Telephone Co., Middletown, N. Y., scholarship fund. Left to right (seated) are: Mrs. Ethel Terwilliger, chief operator; Ralph G. Dodd, commercial manager; and Mrs. Kathleen Kiernan, of Local 1948, International Brotherhood of Electrical Workers. Standing: Warren P. Kerrigan, Local 1948 president; Lee I. Hunt, general manager, and John J. Lawlor, Local 1948.

Western Rural Representatives Consider Challenges of Growth

THE FIFTEENTH semi-annual meeting of the Western Rural Telephone Association, in Portland, Ore., on Mar. 17 and 18, was a gathering of representatives from more than 75 REA-financed or interested companies and cooperatives, REA officials, public service commission staff members, and sales personnel. Association President R. D. Crowe of Dos Palos, Cal., extended the welcome.

The gathering heard Ralph J. Foreman, deputy administrator of the REA, and Harold F. Clark, assistant western area director, REA-Telephone, as the principal speakers.

Mr. Foreman stated that REA-financed commercial companies and cooperatives have a tremendous challenge in providing modern telephone service to rural communities, farms, and ranches. He also commended the members of the association for their efforts and position of responsibility in providing this essential service.

Future planning to furnish improvements and new services, and to maintain healthy equity levels must be foremost in considering applications for supplemental loans, he emphasized.

Mr. Foreman said that the REA Telephone Advisory Committee has been very helpful in furnishing actual operational experience statistics, which assist in the preparation of engineering, management, and operational instructions. A two-way reporting system has been developed through this committee.

Mr. Clark asserted that 18 per cent of operating revenue should be used for plant maintenance, or placed in a special fund "earmarked" for future maintenance work. Unless this plan is followed, the plant will eventually be in such a deteriorated condition that the loan funds will be in jeopardy. REA requirements are quite specific on this matter, he said.

Glenn J. Stover, president of the National Rural Telephone Association (NRTA), reported that the association is growing. The sole purpose of the association is to assist small companies and cooperatives who receive financing from REA. "Although the NRTA is in no way associated with the National Telephone Committee of REA Borrowers, we do support their cause this year," Mr. Stover said.

A panel discussion on insurance was led by Kenneth McCaw, of McCaw & Co., Aberdeen, Wash., and covered the requirements in REA procedures.

Mr. Clark told rural company representatives that companies should review their various insurance policies and consider consolidating them into a few blanket policies. Not only is it easier to administer them, he said, but usually savings can be realized.

Pressurizing cable eliminates sheath breaks and customer outage complaints, James DeYoung, staff engineer with Pacific Telephone-Northwest, stated. When leaks develop, they can be repaired during the routine work day, and 40 per cent of overtime maintenance money can be saved.

Reducing central office maintenance was the subject of Ralph McClaskey, equipment superintendent of the Skagit Valley Telephone Co., at Mount Vernon, Wash. Mr. McClaskey believes giving better service can come only from planned central office routine maintenance.

Paystations should be placed as a convenience to the public and for profit to the company was the message of O. B. Mathiesen, division sales manager of Pacific Telephone-Northwest. As paystations are costly to place, he said that a study should be made before installation.

He gave these tips regarding paystations:

(1) Always locate a booth in a transportation area so that a person using it can see his luggage while telephoning.

(2) Best paystation locations are prominently seen, are convenient, well-lighted, and are near change-making facilities. Locating them near the right kind of merchandise also is an important consideration, and should not be overlooked.

(3) Telephones in booths pay much more than those without booths.

(4) Average paystation revenue yielded in Western U. S. would be:

Low revenue—$15.

Average revenue—$38.

(5) Companies should be aware of changes, such as changing from two to one-way streets, or of industrial areas changing into wholesale.

Douglas Gleason, executive director of the National REA Telephone Borrowers Committee, reported that the committee's recent survey of REA telephone borrowers indicated capital financing as the biggest single problem companies are having in instances where no other type of financing but REA is available. Requirements anticipated would call for an appropriation of 170 million dollars.

In convention workshops, these were some of the topics:

(1) "Trouble Reporting," led by Wayne Irwin, REA, Turlock, Cal.

(2) "Long Span Construction," with Randy Leon, REA, Medford, Ore.

(3) "Mobile Radio," led by Earl Sisk, REA, Seattle, Wash.

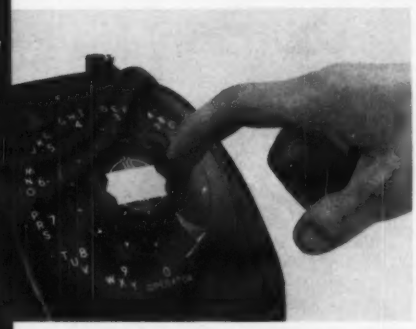
Members of the Western Rural Telephone Association elected the following directors: Richard D. Crowe, of Dos Palos, Cal.; James W. Damon, of Mount Vernon, Ore.; Donald Dickson, of Rupert, Ida.; Chester Gibbs, of Colfax, Cal.; William Graeper, of Aurora, Ore.; Milton Larson, of Lynden, Wash.; Henry Mumaw, of Aberdeen, Wash.;

(Continued on page 48)

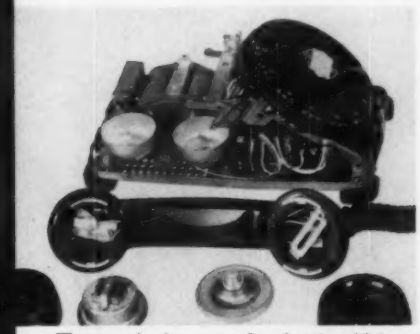
Officers and directors of the Western Rural Telephone Association. Seated (L. to R.): J. W. Damon, vice president, of Mount Vernon, Ore.; R. D. Crowe, president, of Dos Palos, Cal.; and H. Mumaw, secretary, Westport, Wash. Standing (L. to R.): G. J. Stover, of Mount Vernon, Wash.; D. Dickson, of Rupert, Ida.; C. Gibbs, of Colfax, Cal.; W. Graeper, of Aurora, Ore.; M. Larson, of Lynden, Wash.; and F. Ross, of Parker, Ariz.

Type 80 is shaped so that the handset almost automatically "walks" into the cradle—cuts down off-hook trouble. Handset is slim and light.

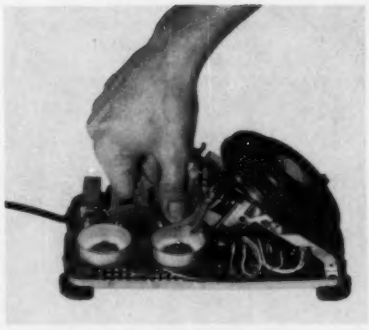
only Type 80 offers you all these features!



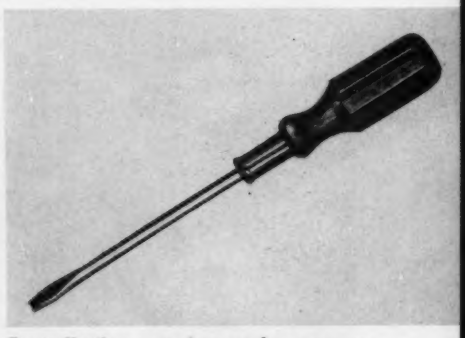
Dialing is dependable, always easy, unusually silent. A new dial mounting slides on and off in a jiffy—there are no screws to loosen.



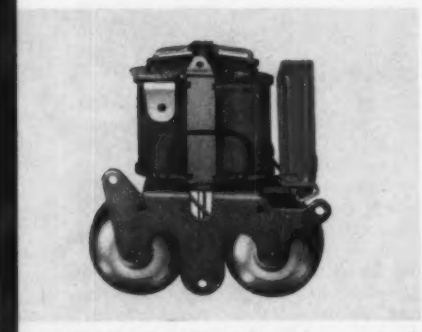
Transmission speaks for itself in a loud, clear, lifelike way. Sidetone and nearby noises are minimized—line loss is largely overcome.



Installer's hooklock keeps hook down during installation—service man has both hands free. No calls are lost, no switches tied up.



Installation requires *only* a screw driver—you save on man-hours. Maintenance is rare. Components are screw-mounted and interchangeable.



Ringing is of ample volume at all frequencies. Ringer and ringing condenser are mounted as a unit—saves time and prevents mismatching.

Every telephone you buy is an investment. Naturally you want the best quality...the best value. Remember these features about the Type 80. Remember, too, that Type 80 is available in 10 decorator colors. To order, contact your AE salesman or write: Automatic Electric Sales Corporation, Northlake, Illinois. In Canada, Automatic Electric Sales (Canada) Ltd., 185 Bartley Drive, Toronto 16.

AUTOMATIC ELECTRIC

Subsidiary of

GENERAL TELEPHONE & ELECTRONICS

GENERAL SYSTEM

Glenn Stover, of Mount Vernon, Wash.; and Floyd Ross, of Parker, Ariz.

The directors elected as their officers: President, Mr. Crowe; vice president, Mr. Damon; and secretary, Mr. Mumaw.

It was announced that the fall meeting of the Western Rural Telephone Association will be in September, in Portland, Ore.

Five Independents to Provide Atlas Missile Communications

Five Independent telephone companies, banded together as a single corporation, recently signed contracts totaling 6 million dollars with Kellogg Switchboard & Supply Co., for inter-site communications in the Atlas missile complex.

Representing Kellogg at the signing was its president, George A. Strichman. Gene Gault, project manager for the Independent telephone companies, represented that group. Participating companies are W. E. G. Dial Telephone Co., Gardner, Kan.; Reno Telephone Assn., Inc., Hutchinson, Kan.; Northern Kansas Telephone Co., Ottawa; Wamego (Kan.) Telephone Co.; and United Telephone Co. of Kansas, Inc., Abilene. With the exception of the latter, all these companies are REA-financed.

The agreements provide that Kellogg will furnish and install cable and carrier circuitry to link Forbes Air Force Base near Topeka, Kan., with nine missile sites within a 50-mile radius of that city.

The telephone companies, functioning as Independent Telephone Association Inc., will operate the missile site network, providing maintenance and administration for the entire project under a prime contract received from the Air Force on Mar. 4.

According to the contract signed, Kellogg will lay more than 500 miles of cable before the system is completed in 1961. First of the ICBM (intercontinental ballistic missile) installations is due to become operational before year's end. When fully operational the inter-site communications for Atlas will tie into the national defense network.

The award climaxed five months of planning and negotiations on the part of the telephone companies. In an effort to provide adequate technical services at the lowest possible cost, the Air Force solicited competitive bids from all possible sources including suppliers of communications equipment.

The bid of the Independent telephone companies was fully responsive to Air Force requests and award was made primarily on a comparison of charges to the Air Force. The lower charges in the successful bid are attributed chiefly to two factors:

(1) The technique proposed by the Independent group, which utilizes the latest electronic equipment, making possible the providing of necessary circuitry at significantly lower cost.

(2) The capability of local telephone companies to provide service at reasonable rates.

Kellogg Credit Corp. will finance the project.

Engineers, technicians and supervisors from Kellogg will work on the installations. The Independent Telephone Association will employ a force of about 60 persons to maintain the missile communications services.

"The plan developed by the Independent association presents a reasonable and equitable means for the Independent telephone industry to provide special services to government agencies," Mr. Gault said.

"The plan presents several distinct advantages: (1) the know-how and experience of the telephone industry is made available to provide special services to government agencies; (2) particular problems involved receive the full attention of a management and maintenance group without competing with the possibly conflicting requirements of the other commitments of the individual telephone companies; (3) the full resources of the companies involved are available in case of emergency; (4) fully delegated responsibility and authority is located on the spot to give immediate response to special problems; and (5) augmentation of future facilities or services may be speedily affected by means of organizations established as part of the over-all project."

LEFT PHOTO: After signing the last of 6 million dollars in contracts, George A. Strichman (seated, right), president of Kellogg Switchboard & Supply Co., accepts congratulations of Gene Gault, project manager of the Independent Telephone Association, Inc. Mr. Gault represents five Independent telephone companies which, under an Air Force contract, will provide inter-site communications for the Atlas missile complex around Forbes Air Force Base, Topeka, Kan. Kellogg will furnish and install the cable and carrier for the project. Kellogg representatives who carried the plan through to the final stages of contract signing, Ray Herrick (left) and Hugh Tremblay, accept the signed documents. RIGHT PHOTO: Representatives of companies which will provide inter-site communications for the Atlas missile complex around Forbes Air Force Base look over the Air Force contracts. From left, are (standing): Thomas Gleason, Northern Kansas Telephone Co., Ottawa; Davis Wheeler, Reno Telephone Association, Inc., Hutchinson, Kan.; Eugene Gault, W. E. G. Dial Telephone Co., Gardner, Kan.; William Polumbus, Reno Telephone Association; and Raymond Herrick of Kellogg. Seated: Hugh Tremblay of Kellogg; Donald Williams, Wamego (Kan.) Telephone Co.; and Douglas Wright of the Reno Company. An official of the other Independent company involved, United Telephone Co. of Kansas, Inc., wasn't present for the picture.

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- Radio and Television Broadcasting Equipment
- Parts for Communication Equipment
- Analog and Digital Computers

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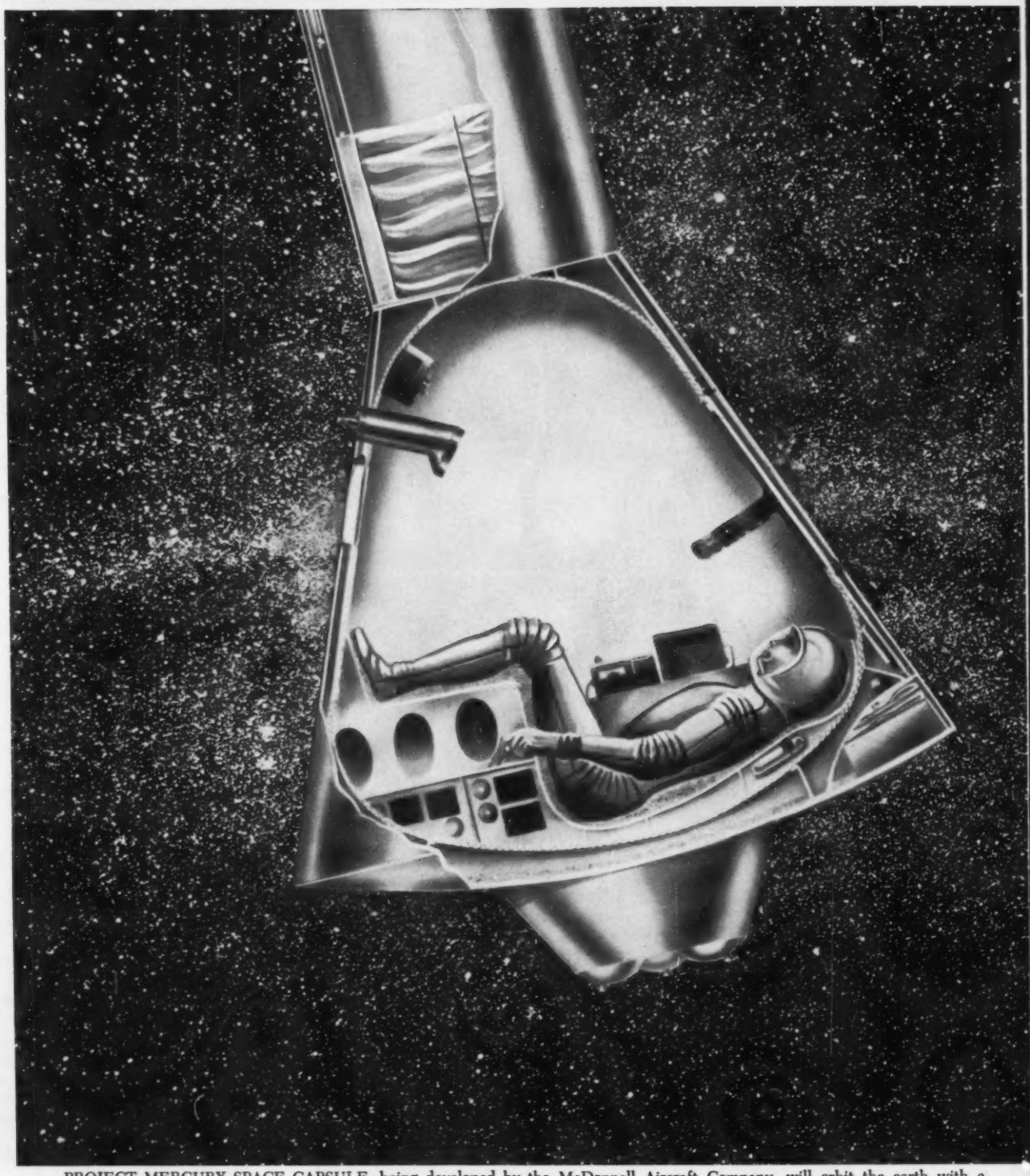
WESTERN ELECTRIC AND



PROJECT MERCURY SPACE CAPSULE, being developed by the McDonnell Aircraft Company, will orbit the earth with a human pilot. Western Electric was selected by the National Aeronautics and Space Administration to head up the industrial team that is building the world-wide tracking and ground instrumentation network necessary to keep in contact with the space capsule.

SPACE-AGE COMMUNICATIONS

As the space-age becomes a reality, Western Electric's arsenal of communications experience continues in the service of the nation . . . tracking astronauts and missiles in space and shielding the nation with far-flung electronic networks.

Because of our vast background in handling complex electronic and communications projects for the Bell Telephone System, the Government has selected Western Electric as prime contractor on vital military communications, defense and tracking networks.

With high-speed intercontinental bombers in the '50s came the urgent need for electronic warning systems. When the Air Force decided to build a fence of radar stations across the Arctic, Western Electric was named prime contractor and completed the massive project in just 32 months. This Distant Early Warning (DEW) Line—since extended to the Aleutian Islands and soon across Greenland—will stretch 5,000 miles in our defense.

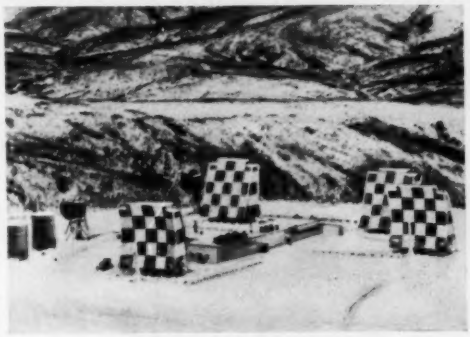
We have also been asked to provide management services for the construction of the Semi-Automatic Ground Environment (SAGE) System and to design and build the rearward communications for BMEWS. SAGE will be a complex of inter-connecting computers, radars and other equipment making up electronic ground environment in each Air Defense Sector. BMEWS will use long-range radar installations for rapid warning and precise, trajectory predictions of enemy ballistic missiles.

W.E. has been recently named by the National Aeronautics and Space Administration to lead an industrial team which is engineering and installing the global tracking and control system for manned space vehicles. This is "Project Mercury," planned for next year to orbit an astronaut 120 miles in space.

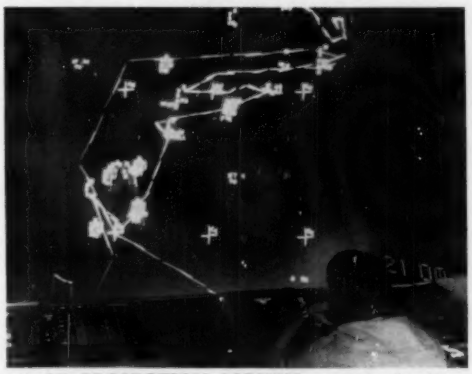
We at Western Electric are indeed proud to help provide the United States with the best military communications, warning, and tracking systems that modern science can achieve.

Western Electric

MANUFACTURING AND SUPPLY UNIT OF THE BELL SYSTEM

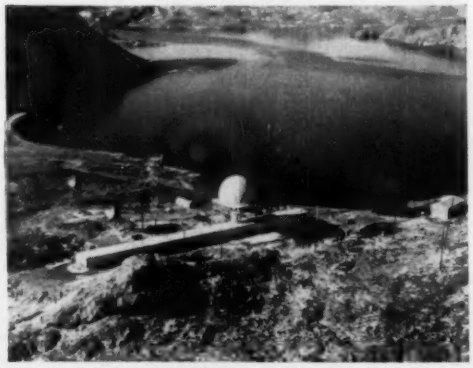


WHITE ALICE STATION perches among some of the roughest terrain in northwestern Alaska. Built by W.E. for the United States Air Force, the 33-station system provides Alaska with greatly improved military and civilian long distance communications.



SAGE PROJECTION SCREEN presents situation display to Sector Commander at Semi-Automatic Ground Environment direction center—allowing a potential enemy air attack to be quickly detected and missiles and fighter aircraft directed to selected targets.

BMEWS SUBMARINE CABLE is laid by HMS Monarch in the remote, ice-choked ocean north of the Arctic Circle. Western Electric was assigned the responsibility for development and construction of the rearward communications for the Ballistic Missile Early Warning System.

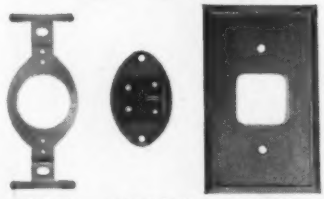


DEW LINE STATION on Baffin Island is part of the largest single defense system ever constructed—an operating radar system across the top of North America, having its own communications network.

WHAT'S NEW AT

SUTTLE

Modern Outlet Hardware Now Available from SUTTLE



SE-43A Bracket $.28 ea. | SE-493-A Oval Jack $1.30 ea. | SE-198 Face Plate $.30 ea.

Modern Flush Outlet Installation

Use of the SUTTLE SE-493A Oval Jack with the SE-43A Bracket and SE-19B Face Plate permits flush telephone outlet installations. The SE-43A Bracket is holed to fit any standard conduit box, and is zinc-chromate plated to prevent rusting. Both ends of the SE-43A Bracket are heavily scored so that ears may be removed to fit any cover. Of non-shorting plastic materials, the SE-493A Jack and SE-19B Face Plate provide a modern, attractive appearance. All units are available direct from SUTTLE at Lawrenceville, Illinois or your local distributor in ivory, brown, and blue-beige colors.

SE-16151

Weatherproof Outdoor Jack Boosts Revenues!

Subscriber demands for outdoor, backyard, or patio telephone service are growing fast. The new SE-16151 Outdoor Weatherproof Jacks from SUTTLE fill the bill for every outdoor use. The non-corrosive, waterproof, aluminum receptacle houses the SE-493A jack (above). This new jack makes an excellent extension sale-revenue booster. Another SUTTLE *quality* product at low cost. Order now from SUTTLE or your local distributor. Price $6.50 ea.

Serving the Communications Industry Since 1910 . . .

SUTTLE EQUIPMENT CORP.

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Phone: DEarborn 2-3108

DECADE OF DISCOVERIES

Continued from page 38

Orwell Telephone Co., Continental Telephone Co., Delta Home Telephone Co., Columbus Grove Telephone Co., Harlan Telephone Co. of Pleasant Plain, Kingsville Telephone Co. of Dorset, Citizens Mutual Telephone Co. of McClure, Fayetteville Telephone Co., Centerville Telephone Co. of Belmont, Vanlue Mutual Telephone Co., Farmers Mutual Telephone Co. of Okolona, Ottoville Mutual Telephone Co., Nova Telephone Co., Bascom Mutual Telephone Co., Chatham Farmers Mutual Telephone Co. of Medina, and New Bavaria Telephone Co.

Highly honored at the awards luncheon was Kenneth J. Pontius, an installer for the Western Reserve Telephone Co. of Hudson, who won the "Beyond the Call Award" for his heroism in saving the lives of two residents of Twinsburg, O. On a new installation call, Mr. Pontius found what he thought was an empty house. After knocking several times, he entered and discovered the pair unconscious on the floor, overcome by fumes from charcoal burners. Having a knowledge of first aid, he quickly carried them into the open air, applied snow to their faces and after a tense interval, the two people recovered consciousness. James C. Hageman, OITA president, presented Mr. Pontius with a large silver tray commemorating this event.

Featured speaker at the awards luncheon was Dr. Glenn E. Clayton, president of Ashland (O.) College.

Following the luncheon, delegates attended panel discussions in four "Trading Posts of Ideas" covering the fields of accounting, commercial-public relations, plant-equipment and traffic. After the various presentations, delegates submitted their questions for discussions. Participants in the panels and their topics were:

Accounting Trading Post of Ideas—Moderator, W. H. Todd, Northern Ohio Telephone Co. of Bellevue; Edward E. Knaub, chief, accounting department, Public Utilities Commission of Ohio; R. E. Haan, sales manager, Service Bureau Corp., Cleveland; and William G. Barth, vice president, Cincinnati & Suburban Bell Telephone Co., Cincinnati.

Commercial-Public Relations Trading Post of Ideas—Moderator, George Knapic, commercial superintendent, Warren Telephone Co.; E. B. Voelcker, general directory supervisor, Ohio Bell Telephone Co., Cleveland; Nap Videan, directory supervisor, Northern Ohio Telephone Co.; James G. Smith, executive vice president, Hameroff and Smith, Inc., Advertising, Columbus, and Marvin Johnston, commercial manager, General Telephone Co. of Ohio, Marion.

Plant-Equipment Trading Post of Ideas—Moderator, Fred Gerber, plant superintendent, Lorain Telephone Co.; John S. Belcher, circuit design & development engineer, Leich Electric Co., Chicago, Ill.; Marion S. Emrich, staff superintendent cable maintenance, Ohio Bell Telephone Co., Columbus; Ross H. Herrick, chief engineer, Lorain Telephone Co.; and John G. Beckley, manager, electronic sales, Buckeye Telephone & Supply Co., Columbus.

Traffic Trading Post of Ideas—Moderator, Mrs. Florence Gaskalla, chief operator, Elyria Telephone Co.; Charles Murray, traffic manager, Lorain Telephone Co.; Mrs. Emma Lou Geus, personnel manager, Midland Mutual Life Insurance Co., Columbus, and Frank W. Donahue, traffic engineer-planning, Ohio Bell Telephone Co., Cleveland.

The annual banquet the evening of Mar. 30 brought the convention agenda to a close. Frank T. Quatman, vice president, Telephone Services, Inc. of Lima, served as master of ceremonies for this affair.

E. W. Smail Elected President, United of the Carolinas

United Utilities, Inc., has announced the election of Edwin W. Smail as president and general manager of the United Telephone Co. of the Carolinas, Southern Pines, N. C., succeeding Walter G. Robertson, who resigned.

Mr. Smail has been associated with various operating companies of the United System and has been with the Carolina company for 10 years. Of this time, several years were spent as commercial and traffic superintendent. Prior to his election as president, he served as secretary, assistant general manager and as a director.

Mr. Robertson joined the co.npany in August, 1958 after spending many years in the telephone business. Before joining United he was vice president of Tidewater Telephone Co., Warsaw, Va.

Introduce 7-Digit Dialing In Seven Ky. Exchanges

Seven exchanges are now on seven-digit dialing, according to Oscar Bruner, manager of the southern division of the Northeastern Telephone Corp., London, Ky.

Towns where the Northeastern company has put the seven-digit method into practice are Mt. Vernon, Brodhead, Livingston, Science Hill, Eubank, Faubush and Shopville. These areas recently converted to dial service.

Pass Salary Bill in Miss.

Mississippi's Senate has passed a bill to raise the salaries of members of the state public service commission from $10,000 to $12,500.

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Serving the Communications Industries of the World

With **PRODUCTS DEVELOPED and MANUFACTURED BY:**

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"X" and "LL" Transistorized Carrier Equipment for local or toll applications on—Buried Wire, Cable, Open Wire and Microwave Facilities, with signalling options to meet specific requirements.

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Engineering, Consultation, Product Evaluation, Market Evaluation, Growth Studies, Market Surveys, Product Research.

INTERNATIONAL TELETRONICS INC.

644 BRANIFF AIRWAYS BUILDING • DALLAS, TEXAS • PHONE FLEETWOOD 7-8353

Twenty-five Independent telephone companies from Maine to California selected key personnel to take the 6-week course in switching fundamentals and preventive maintenance offered recently by Stromberg-Carlson in its Telecommunication Training School. The men represented companies varying from the small owner-managed exchange to the very largest Independent; they came from 15 different states; on the average they are young men who see a positive future in Independent telephony, Stromberg found.

In addition, five men were sent by the Armed Forces, which uses XY Dial equipment for highly mobile field army trailers, as well as fixed offices of 5,000 lines or more.

An innovation in this session was the introduction of toll ticketing fundamentals as part of the regular switching curriculum. An interesting side-light: this was the 47th consecutive class, and the five instructors have exactly 47 years experience between them.

Front row, left to right: D. Z. Olver of Big Eddy Telephone Co., Narrowsburg, N. Y.; J. G. Clendenin, United Telephone Co., Chapel Hill, Tenn.; E. Crain, Signal Battalion, Ft. Bragg, N. C.; J. E. Rushing, Parsons (Tenn.) Telephone Co.; A. R. Aschettino, instructor-in-charge; J. A. DiVita and R. R. Bankes, instructors.

Second Row: J. W. Montgomery, Highland Telephone Cooperative, Sunbright, Tenn.; R. T. Wright, Redstone Arsenal, Ala.; J. C. Stacher, Siskiyou Telephone Co., Fort Jones, Cal.; J. T. Hicks, Inman (S. C.) Telephone Co.; D. M. Benjamin, engineer, Stromberg-Carlson; T. J. Reamer, Pickford (Mich.) Telephone Co.; C. M. Stark, Fort Ritchie, Cascade, Md.; D. E. Nichols, Hartland & St. Albans Tel. Co., Hartland, Me.; R. E. Vocate, United Telephone Co. of Missouri, Lexington, and A. J. Rosati, instructor.

Third row: R. L. Stalling, Northeast Nebraska Telephone Co., So. Sioux City, Neb.; G. K. Wagner, Yuma Test Station, Yuma, Ariz.; J. P. Glaser, engineer, Stromberg-Carlson; P. E. McCarthy II, Oneida County Rural Telephone Co., Holland Patent, N. Y.; C. M. Wright, Western Counties Telephone Co., Dundee, N. Y.; S. F. Yakey, Champlain (N. Y.) Telephone Co.; W. C. Hanson, Viking Telephone Co., Hanska, Minn.; R. L. Canada, Signal Battalion, Ft. Bragg, N. C.; W. G. Bierman, Northeast Nebraska Telephone Co., and H. E. Hicks, Hamilton County Telephone Cooperative, Dahlgren, Ill.

Fourth row: K. W. Huey, Signal Corps, Ft. Campbell, Ky.; K. W. Bisher, Battle Ground Telephone Co., Brookston, Ind.; C. W. Muiller, Western Light & Telephone Co., Aurora, Mo.; M. E. Selleck, North Penn Telephone Co., Prattsburg, N. Y.; W. I. Charles, Empire Telephone Corp., Prattsburg, N. Y.; W. J. Grossnickle, Lehigh Valley Telephone Cooperative, Lehigh, Ia.; J. R. Ballard, United Telephone Co. of Missouri, Waynesville; C. F. Brandes, Maywood (Neb.) Telephone Co.; W. R. Craven, Brookville (Pa.) Telephone Co., and L. W. Monticue, Ligonier Valley Telephone Co., Stahlstown, Pa.

Set Schedule for IEI 1960 Summer Seminars

The Industrial Education Institute, 221 Columbus Ave., Boston 16, Mass., is offering the following seminars during May, June and July which may be of interest to telephone company management and personnel.

Scheduled for San Francisco on May 20; at Los Angeles on May 24; and at Seattle on May 27, will be the IEI seminar on "Determining Manpower Capabilities in Your Organization."

For May 3, in Philadelphia; on May 5, in New York; on May 13, in Boston; on June 1, in Montreal, and on June 3, in Toronto, will be the one-day session on "Locating and Developing Creative Engineers."

Other one-day seminars, together with the cities and dates for which they are scheduled are as follows:

"Reducing Costs in Drafting and Design Operations," Montreal, May 4; Toronto, May 5; San Francisco, May 24; and Los Angeles, May 25.

"Clear Technical Writing," Dallas, May 10; Houston, May 11; New Orleans, May 12; Montreal, June 7; Toronto, June 9; and Detroit, June 10.

"Controlling and Reducing Clerical & Office Costs," Boston, June 6; Montreal, June 7; Toronto, June 8; New York, June 9; Philadelphia, June 10; Chicago, June 15; Cleveland, June 16; Seattle, July 13; Portland, July 14; San Francisco, July 15; Los Angeles, July 18; Dallas, July 19; and Houston, July 21.

"Evaluating the Individual's Future Job Performance," San Francisco, May 19; Los Angeles, May 23; and Seattle, May 26.

"Buying by Negotiation," Chicago, July 9.

"Microfilming Key to Lower Engineering Costs," May 11, Boston; May 17, New York; June 22, Chicago; June 23, Detroit; and on June 24 in Cleveland.

Survey of 395 Independents' Buying Plans Available

A survey of 395 Independent telephone companies, which was conducted by *Nation's Business*, reports that these companies plan to spend an average of almost one million dollars each for new construction, machinery and equipment in 1960.

Office equipment, building materials and fleet cars and trucks figure prominently in the buying plans of these

companies, 64 per cent of whom serve over 1,000 stations.

The survey report also measures car and truck ownership by brands, business insurance coverages, and executives' magazine reading preferences.

A copy of the complete report is available by writing Herman C. Sturm, director of advertising, *Nation's Business*, 711 Third Ave. at 44th St., New York 17, N. Y.

IN THE NATION'S CAPITAL

Continued from page 18

Administration, of the U. S. Department of Commerce, Alexander J. Falk, director, has recently issued an interesting survey showing a tremendous jump in the use of such materials among communications equipment industries during the five-year interim between 1954 and 1959.

The following table shows the increasing use of each material during the interim:

Controlled Materials	*1959*	*1954*
Carbon steel, short tons	76,140*	47,800*
Alloy steel, short tons	652*	
Stainless steel, pounds	1,579,200	1,313,000
Copper and copper base alloy, pounds	33,363,000*	20,300,000*
Copper wire mill, pounds ..	24,767,000*	16,500,000*
Aluminum, pounds	14,710,000	5,000,000

*This figure does not include consumption by outside plant facilities.

On a percentage basis, this means that the consumption of copper base alloy products has gone up 39 per cent, copper wire 33 per cent, aluminum 66 per cent, and steel 37 per cent.

Mr. Falk's division is conducting a companion study on the use of controlled materials by the operating end of the telephone-telegraph industry as distinguished from equipment manufacturing. This would cover telephone and telegraph buildings and outside plant facilities employing wire and cable. The Department of Commerce release states:

"The continuing growth in population, plant expansion, changes in marketing patterns and new product developments will undoubtedly lead to higher consumption rates for the next several years.

"Because of new techniques in the art, however, which are under consideration in the laboratories, demand may slacken, and a plateau for consumption of controlled materials may be reached in the not-too-distant future."

Neoprene-covered Reliable Wirelink gives you these advantages:

- No taping needed
- Easy to install, no tools needed
- Neoprene has high dielectric strength and is grease resistant
- Wirelink is stronger than an equal length of wire . . . and it has less resistance

Reliable

A Symbol of Integrity Since 1909

ELECTRIC COMPANY
Franklin Park, Illinois

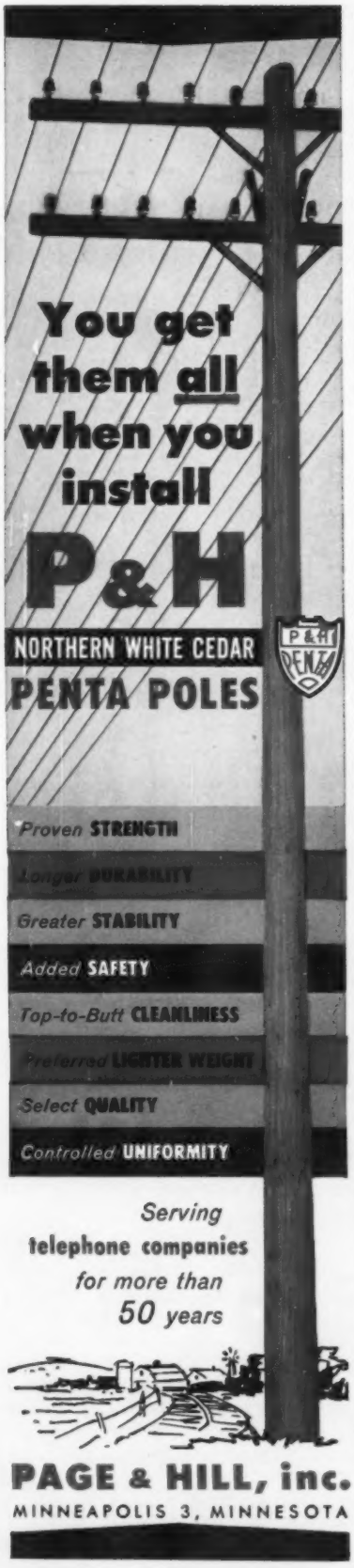
Send me a sample Neoprene covered Wirelink
☐ Cat. No. 5059N for 12 BWG .109
☐ Cat. No. 5063N for .120-.134

Name_____ Title_____

Company_____

Street_____

City_____ Zone_____ State_____



WHERE DO WE GO FROM HERE?

Continued from page 20

The popular belief that telephone company profits are guaranteed by regulatory authority, could not be further from the truth. They are the product of good management based on reasonable rates.

To continue furnishing the nation with more and better service, at fair and reasonable costs, and with equitable compensation in all of its aspects to its employes and investors, telephone companies are justified in striving for profits comparable to any other well-managed business.

This is a serious matter, and while much has been said on the subject, it must be kept alive in the hope that the situation will be corrected soon. Every advantage should be taken of an opportunity to inform the public of this problem.

In a recent newspaper editorial, the earnings of a telephone company were criticized as the greatest in its history and it was implied that the rates should be reduced. This attack did not specify what the earning rate amounted to, or how it compared with the earnings of other well-managed industries, thus leaving the readers in the dark as to the real facts, in an attempt to create an erroneous public opinion about the company. This is a case of oblique reporting, or a sneak form of rabble-rousing.

Now let's take a look at one of the ways for increasing telephone revenue. For a long time, telephone companies have had many related items of service available about which the public was not properly informed. Up until the last few years, it is felt that very little effort was directed to merchandising—selling telephone service in all its aspects.

A group of telephone products sales representatives for Preformed Line Products Co. recently gained a better understanding of the company's Guy-Grip dead-ends in this frigid classroom. Hot coffee and warm classrooms followed, as the representatives from 13 sales areas closeted themselves with engineers, demonstrators and sales service personnel to learn still more about the helically formed accessories for use in the construction, repair, and maintenance of open line wire and messenger, one-pair aerial distribution wire (C-rural), rural distribution wire (B-rural), plastic-covered self-supporting cable, drop wire, and guy and messenger strand. This Preformed advanced sales-engineering seminar for field personnel, held at Cleveland, O., was the second of its kind conducted within a five-month period. The training sessions concentrated upon design, theory, manufacturing and application of Preformed products. Previews covering information on many products still in the development stages were also presented to the representatives.

Companies seemed to be content with waiting for the public to come in and buy, and what they bought was confined mostly to basic service.

Also, many times when a subscriber would ask for some innovation that was not then listed as an item of service, he was informed, "We can't do that."

Even under today's merchandising programs, now undertaken by almost every telephone company, we are still falling short of the full impact of selling the service.

As an outstanding example, the writer, a couple of years ago, had occasion to visit a new housing development on a military base. Detailed inspection of these new homes (average six rooms, probable cost $12,000-$15,000) revealed an adequate compliment of electric convenience outlets in every room.

These new homes averaged around 30 electric service outlets, with one outlet per home provided for telephone service. This is a lot worse than it sounds, since ordinarily, base regulations prohibit drilling holes in new houses for the installation of a telephone, thus blocking the sale of an extension telephone, to say nothing about the sometimes undesirable location provided for the main station, which could not be changed.

In many such cases, a series of convenient telephone outlets could be provided at a cost representing a very small percentage of the total outlay, but the designers and builders are just not thinking in terms of telephone service outlets.

When laying out the electric service wiring, all they think of is outlets for floor and table lamps, radio, TV's, toasters, coffeemakers, portable heaters, etc., but the telephone rarely comes up with more than one outlet, and in most cases we are lucky to get this much consideration.

This is our fault. We haven't made the proper effort to develop telephone service consciousness, and in many cases, we are automatically losing an opportunity to sell extensions and/or perhaps a second main line station.

There are many kinds of optional services and attractive conveniences available today that do not require outside plant or central office equipment, thus affording companies an opportunity to increase their current revenue without disturbing the capital account appreciably, which means increased earnings.

This is particularly true in the case of business services. In many cases, a particular subscriber's business requirements may demand a device that is not in the book. A little study of the situation, plus the ingenuity of a service representative, equipment engineer, or installer, will reveal that the requirement can be met from stock items, after which the commercial people can file for a proper tariff and sell the service.

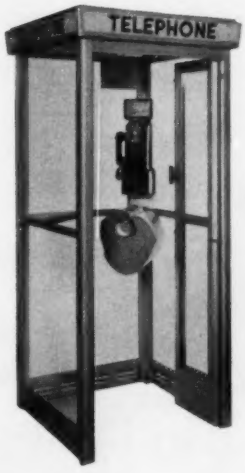
If the service expansion resulting from merchandising efforts calls for cable pairs that may exceed the safe working capacity of existing cable fills, take a good look at your assignment records for the possibility of reloading existing services, in the hope of recovering the required pairs.

This investigation should also include the possibility of cross connecting boxes and cable throws and transfers, in order to obtain the highest utilization fills in existing cable, thus perhaps deferring expensive cable reinforcements. It does not take an engineer to resolve such simple economics.

These well-directed efforts will place us in a better position to compete for our share of the customer's dollar and will result in better earnings.

It will also place the business in a more attractive position in the money market, so that the needed capital for

PROVED BEST for attractive appearance



Intelligent engineering always includes appearance. Slim posts, good proportions and a variety of glass and solid panel arrangements make this the most attractive booth available.

the B N Booth

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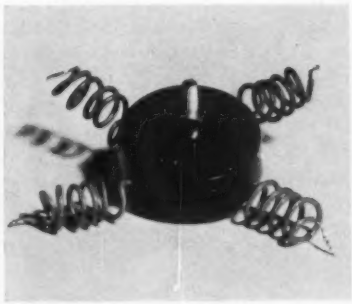
—Isolates buried plastic wire plant and other cable taps

—"Bridge Lifter"



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future developments and expansions will be available without undue penalty.

Merchandising is the big word of today. It is not new to other industries, but to the telephone business, it took this word and what it stands for, to strike down a peculiar kind of business complacency.

Merchandising activities in our business should not be confined to merely selling our service and its many offsprings, but should include selling the telephone business as a whole.

It should cover, on an accelerated basis, what has been attempted in the past under the head of public information. The more the people know and understand about our business, its aim and ideals, the better our chance of competing with whatever obstacles might be encountered in the future. This might be a big factor in developing the answer to, "Where Do We Go From Here?"

This writer is fully cognizant of the fact that this dissertation rambles somewhat, and that nothing has been said here that has not been hashed over many times.

However, if this effort instills the slightest spark that might arouse a fresh thought for the future, it then has been worth-while. It is felt that the type of people who have been running the telephone business will move into the future with the same determined ingenuity, enthusiasm and confidence that has brought us up. This is a type of determination which is bound to reflect continued progress.

SELL TO MEET COMPETITION

Continued from page 41

develop more local and rural food processing, and to aim to accomplish this through:

Community betterment.
Improvement of various existing associations.
Lending a hand to fellow industries.
Strengthening rural areas.

North Dakota Public Service Commissioner Martin Vaaler, unable to be present, by letter urged telephone companies to work strenuously to cut overhead in order to meet the threat posed by the state's decreasing population trend. Another step in this direction is to sell additional services, he said.

The other panel—on mobile telephone—consisted of F. W. Ahlgren of Parshall, moderator; Allen Hahn of Minneapolis, Minn.; Victor Sorsdahl of Steele, and Arthur Johnson of Ray.

Mr. Ahlgren said that his company became interested in mobile dial telephone service due to oil-field activity in its territory, and through being next to a Bell exchange which was furnishing mobile dial service. In addition to its other advantages, he said, this service is a valuable safeguard in the long North Dakota winters. (The story of Mr. Ahlgren's experience with mobile dial appeared in TELEPHONY, Sept. 12, 1959, p. 22.)

Mr. Hahn mentioned that the number of users of mobile dial service varies inversely with the population; that is, mobile dial is most used where population is sparse. Also, that this system differs from usual telephoning in that mobile dial is a push-to-talk, release-to-listen arrangement. In the mobile dial setup, all calls must be logged, he said.

Mr. Sorsdahl reported that when his company surveyed possible users of mobile dial, some ordered right away, whereas others placed their orders conditional upon satisfactory performance. Once in operation, though, he said, interest picked up considerably.

An area of 70 by 100 miles is served by Mr. Johnson's company so that employes spend a large part of work-time driving. Thus, whatever saves driving time, more than pays for itself, he said; and this includes mobile dial.

Mr. Johnson pointed out that beyond his own company's use, there are three types of subscribers:

(1) People who stay within their own exchange area; those who have their office in their car, in effect; and people "on the go" who need to call home or office frequently.

(2) Those who don't remain within the exchange area, but who occupy a certain geographical area; oil field people, for example.

(3) Roving-type communicators who can be reached anywhere in the U. S.

Also observed by Mr. Johnson was the expectation that compatibility of mobile dial systems will become more of a problem as more companies get more base stations and subscribers.

Questions directed to the panel brought out that, for one company, cost-per-trouble-call was cut in half following installation of mobile dial telephone service. The range for mobile dial is 17 to 90 miles with a 300-foot antenna, the distance depending upon characteristics of the earth, including its topography, and the surrounding noise level. REA loans for mobile dial service are for 15 years, instead of 35, due to high allowance for equipment depreciation.

Delinquent REA borrowers are down from 19 to eight, reported Everett C. Weitzell, chief, REA telephone operations and loans division. He also told of an organization in Indiana set up to enable borrowers to work together in case of sleet storms, severe fires, etc.

Mr. Weitzell took up supplemental loan applications — now in new brief and flexible form.

He also said he would like borrowers to think in terms of their own financial planning (contrasted with REA's). He said certain borrowers will accumulate depreciation and maintenance reserves, and surpluses—and these plus others of the company's own resources, coupled where necessary with REA funds, can comprise a company's financing.

Mr. Weitzell went on to encourage advance repayments on REA loans ("this makes Congress happy"), and financial planning for a company's own expansion needs. He said he was throwing these ideas out for consideration "because REA's a maturing program—we're beginning to see 'the light of day' over and above the problems we've experienced in the last several years."

The North Dakota Telephone Association elected the following directors: Don Brooks of Hazen; Gordon Brown of Enderlin, and John Nilsen of Nome.

Other directors are: W. H. Chance of Mayville; G. Mayo Carl of Fargo; Frank Solberg of Langdon; W. G. Matson of Stanley; Loren Linder of Minot, and John Heintz of Devils Lake.

The directors elected the following officers: President, Mr. Linder; vice

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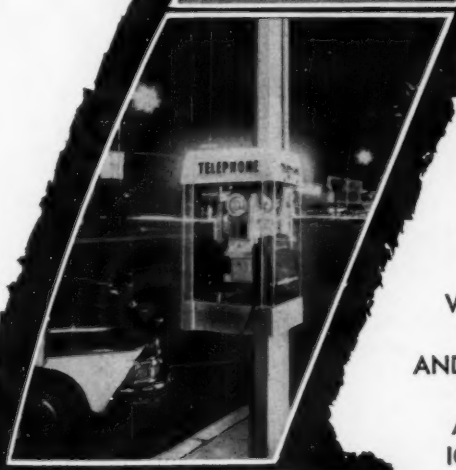

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president, Mr. Brooks, and secretary-treasurer, Mr. Brown.

The North Dakota Association of Rural Telephone Cooperatives elected the following officers: President, George L. Jackson of Dawson; first vice president, Wayne Johnson of Rt. 3, Williston; second vice president, Leonard Bowman of Rhame; secretary, Albert Steffenson of Senger; treasurer, Donnell Haugen of Roseglen; and executive manager, R. G. Harens of Bismarck.

Hawaiian Company Announces Three Staff Promotions

John J. Jaquette was named a vice president of the Hawaiian Telephone Co., Honolulu, by the company's board of directors at a recent meeting. He also will continue to serve as secretary and controller.

J. J. JAQUETTE

K. K. CHONG

Mr. Jaquette joined the company as training supervisor in 1949 and subsequently served as staff assistant, assistant to the treasurer, chief accountant, secretary, and assistant treasurer and since 1958, as secretary and controller.

L. D. HINTON

A native of Philadelphia, Mr. Jaquette holds a bachelor's degree in economics from Haverford College, and a master's degree in business administration from Harvard University. He is president of the National Association of Accountants, Hawaii chapter, and vice president of the Tax Foundation of Hawaii.

The board also promoted Kim Kiu Chong to assistant treasurer and Louis D. Hinton to assistant secretary.

Mr. Chong joined the Hawaiian company in 1926 and has served in various accounting positions. Since 1954, he has been assistant to the vice president and treasurer. He was born in Kohala, Hawaii, and attended McKinley High School and the University of Hawaii.

Mr. Hinton joined the company in 1950 as an assistant rate engineer. He served as rate engineer, business manager, and since 1958, as director of revenue requirements. He is a native of Clarksville, Tenn., and is a graduate of the University of Tennessee.

Henry to Get First-Hand View of Armed Forces

Col. Wm. C. Henry, president and general manager of the Northern Ohio Telephone Co., Bellevue, O., has been invited by the Secretary of Defense as one of the 75 civilian business, industry, labor, farm and professional representatives, selected from all parts of the United States, to attend a Joint Civilian Orientation Conference. In a 10-day trip from Apr. 26 to May 5, the conferees will be given a first-hand view of our Armed Forces.

The trip will be made by military jet transport airplanes, and will open with a reception and dinner at the Broadmoor Hotel in Colorado Spring, Colo.

The first stop will be the Headquarters, North American Air Defense Command; then to Offutt Air Force Base, Neb., to the Strategic Air Command Headquarters, followed by a visit to Fort Benning, Ga., for the Army's infantry fire power and airborne demonstration.

May 1 and 2 will be spent with the Tactical Air Command at Langley Air Force Base, Va., with the National Aeronautics & Space Agency, and the select group in training as astronauts. The following three days the conferees will be guests of the Navy and Marine Corps at Norfolk, with two nights aboard the aircraft carrier, S. S. Independence, to observe naval operations and a joint amphibious landing. The conference will close on May 5 with a presentation at the Pentagon in Washington, D. C.

The program is designed to give a broad personal understanding of U. S. defense components. Colonel Henry was a member of the Staff of Supreme Headquarters Allied Forces in Europe during World War II. He is the military liaison officer for the Independent telephone industry, and is a member of the Department of Defense Executive Reserve.

He is a member of the board of directors of the United States Independent Telephone Association and served as its president 1947-48.

Alarm System Helps Capture Wire Thieves in Missouri

A new alarm system installed on lines of the Potosi (Mo.) Telephone Co. led to the capture on Apr. 11 of four men on charges of wire theft.

Due to an increased number of these robberies, the Potosi company had put the alarm system into operation on a 24-hour basis.

Two of the men apprehended face charges of theft, and the other two were turned over to juvenile authorities.

Claude Downard, manager of the Potosi company, informed the Sheriff's office that the alarm had been tripped and was on the scene at the time of the capture.

R. H. Scrudder Appointed General of NW Plant Head

General Telephone Co. of the Northwest has announced the promotion of Rufus H. Scrudder, general installation and maintenance supervisor, to the position of general plant manager, according to A. J. Barran, president.

Mr. Scrudder began his telephone career with the Western Arkansas Telephone Co. as an instrument repairman

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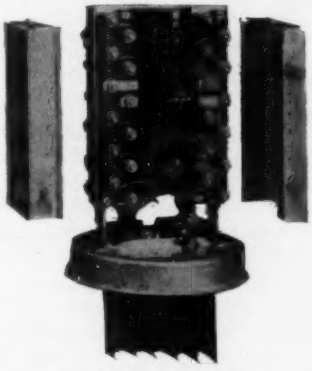
CEECO PARKWAY LUG TYPE PEDESTAL TERMINALS FOR DIRECT BURIED WIRE OR PLASTIC CABLE

★ **PEDESTALS**—TWO PIECE—SIX FEET LONG
★ **POLE BRACKETS**—AVAILABLE FOR AERIAL MOUNTING
★ LOADING ONE OR MORE PAIRS AS REQUIRED—USING TYPE C637A (88MH) OR TYPE C637B(44MH) COILS



LUG-12 TERMINAL AND PROTECTOR PLATES WITH SEVEN TYPE 637B LOADING COILS

TYPE CH-15 "BELL JAR" HOOD

★ **ACCESSIBLE**—FOR TESTING, CABLE SPLICING, CROSS CONNECTING AND BURIED WIRE DISTRIBUTION
★ **STRONG**—ALL STEEL CONSTRUCTION, "BELL JAR" TYPE COVER
★ **PROTECTION**—SIDE PLATES GIVE NOMINAL AIR GAP TYPE PROTECTION AT EACH STUD END
★ **COMPLETE**—WITH NON-PROTECTED TERMINAL STRIPS, DECALS, ETC. NO EXTRAS

The type C637A(88MH) or C637B(44MH) load coils are completely encapsulated in plastic—moisture tight—high dielectric strength. These coils are same type used in CEECO type 177 terminals on rural distribution wire. These coils are interchangeable in both terminals and can be installed with standard ⅜" socket wrench. Coils are stock item.

CATALOG NUMBER	DESCRIPTION	TOTAL NUMBER PAIRS HIGH	TOTAL NUMBER COILS	INSIDE HOOD DIAMETER	APPROXIMATE HEIGHT OF HOOD
LUG-12	TERMINAL-PEDESTAL AND HOOD (NO COILS)	6	12	6 ID	15"
LUG-16	TERMINAL-PEDESTAL AND HOOD (NO COILS)	8	16	6 ID	15"
LUG-28	TERMINAL-PEDESTAL AND HOOD (NO COILS)	14	28	6 ID	21½"
LUG-52	TERMINAL-PEDESTAL AND HOOD (NO COILS)	26	52	6 ID	32½"

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CEECO loading coils are sold by your telephone equipment supplier

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in 1945. He joined the Kennewick Valley Telephone Co., Kennewick, Wash. as a combinationman in March, 1947.

He became affiliated with General Telephone Co. of the Northwest when General's predecessor company, Interstate Telephone Co. bought the Kennewick Valley company in August, 1948.

He has served as plant chief, wire chief, district plant supervisor, senior commercial representative, commercial engineer and as a district manager in the Wenatchee office.

Mr. Scrudder assumed his new post effective Apr. 12, taking over the position vacated by the promotion of Walter E. Carroll to operating vice president of the company, Mr. Barran reported.

Superior Cable Buys Supa Insulations, Inc.

Supa Insulations, Inc., of Rocky Mount, N. C., has become a wholly-owned subsidiary of Superior Cable Corp., Hickory, N. C., effective Apr. 15. The announcement was made by James L. Robb, president of Superior Cable.

Supa specializes in the manufacture of "Teflon" insulated wires and cables. (Teflon is DuPont's trademark for Polytetraflouroethylene.) According to Mr. Robb, the addition of the Supa high temperature products rounds out Superior Cable's line of wire and cables for the aircraft, missile, and electronic industries.

Supa products will continue to be marketed under the same name. The Supa sales force has been merged with that of Superior Cable Corp., under the direction of J. H. Bowman, vice president in charge of sales and D. W. Hoffman, sales manager of the control cables division.

Bauman Named District Sales Head for Ramset Fasteners

Miles I. Bauman has been promoted to district sales manager for Ramset Fastening System, part of the Winchester-Western Division, Olin Mathieson Chemical Corp., it was announced by R. H. Benedict Jr., sales manager. He will be responsible for sales in Indiana, Illinois and western Kentucky.

Mr. Bauman was formerly a sales representative for Ramset. Before joining the company a year ago, he was an account executive with LaGrange & Garrison, an Indianapolis advertising agency.

Ramset, with headquarters in New Haven, Conn., produces powder-actuated fastening tools, Shure-Drive hammers, Shure-Set hammer-in tools and assorted fasteners for fastening into steel and concrete.

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reconditioned . . . . . 25.
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reconditioned . . . . . 27.
C 25 A, 25 pr. (1/2 of C50), new 20.
1268 A, 20 pr., new . . . . . 10.
1268 B, 23 pr., new . . . . . 12.
1269 A, 20 pr., new . . . . . 10.
1435W (1269-A-wood base), new 10.
1435 U, Fuse group, new . . . . . 5.
Heat Coils. 76A, new . . . . . 10¢
Frames, MDF, W.E. & Cook
6 & 8 ft., single or up to 5 verticals in unit—save over half.
FUSES, 35A, B, C, H, S, New, 10¢. ($9 hund., $80 thousand) 75,000 in stock (standard W.E. pack, 10 or 50)

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Also may be used for ring-thru LB cord circuits, isolation, drainage.
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76A (two coils) 1:1 rat. 5.00
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W.E. F-10, 5 1/2 ft. stub . . . . . $ 6
12 ft. stub 7
F-16, 5 1/2 ft. stub 10
12 ft. stub 12
F-26, 5 1/2 ft. stub (4 for $50) ea. 15
BD-102, cross-conn 51 pr. or terminal 102 pr. 80
BD-606, as above 250
B26, with Cook #105 fused 20 pair protector 30
Cook XB11 with 6 ft. stub 6

A.E. 60A type, 16 pr., 6' stub . . $ 8
26 pr., 6' stub 12

Protected Pole Terminals.
11 pair S-6 Cook, A9—5 amp. Fuses—Tru-gap Dischargers. No stub, for Plastic cable, compression gland. New $19.50

Protected Interior Terminals.
Western Electric—all new. Lead stubs.
LA 11, complete $40
LA 16, complete 50
LA 26, complete 65
LA 26 (fuse chamber only) 20
with protection 30
LA 51, complete 100
LB 26, fuse chamber only 20
with protection 30
LC 16, complete 45
LC 26, complete 60
LC 51, complete 80

Interior, lead stub
W.E. G-16, bind post chamb. 5
G-26, bind post chamb. . . . 10
H-51, bind post chamb. . . . 20
(12 ft. stub)
E-51, 54" stub 25
50 ft. stub 40

Cook Terminals
WXB, 6 pr. (less box) Lead 4
WXB, 16 pr. (with box) 8
M-16, 51 pr. 15
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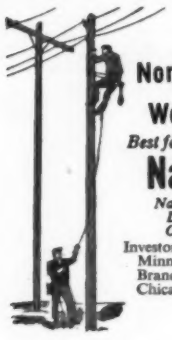

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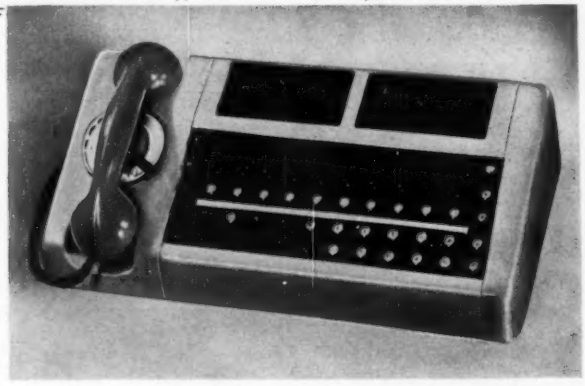

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